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ABSTRACT

The booklet provides detailed estimates on handicapping conditions for school aged populations. The figures are intended to help the federal government validate state child count data as required by P.L. 94-142, the Education for All Handicapped Children. Section I uncovers the methodology used to arrive at the estimates, and it identifies the sources used to generate statistics as well as the methods used for developing them. Section II, the bulk of the document, presents four sets of estimates based on variation in prevalence by race and poverty level. Extensive tables depict information for each state and the United States by nine handicapping conditions: mental retardation, partial hearing, deafness, speech impairments, visual handicaps, serious emotional disturbance, orthopedic impairments, other health impairments, and specific learning disabilities. Statistics also include means, standard deviations, and minimum and maximum rates. Extensive appendixes include abstracts of data sources and papers on the epidemiology of handicapping conditions. (CL)

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ED226520

September 1977

VALIDATION OF STATE COUNTS OF HANDICAPPED CHILDREN

Volume II — Estimation of the Number of Handicapped Children in Each State

By: DAVID H. KASKOWITZ

Prepared for:

BUREAU OF EDUCATION FOR THE HANDICAPPED
U.S. OFFICE OF EDUCATION
DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
WASHINGTON, D.C. 20202

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I METHODOLOGY

Our review of the data bases and sources of information for the estimates has led us to the view that the estimates should be used only in the editing portion of the validation procedure. Because of the weaknesses in the currently available data and the complex nature of the population whose size is being estimated, it is possible to generate only estimates that are "ballpark" figures. As indicated in Volume 1, the problem of comparing the state-reported counts with the estimates, as originally envisioned, is that the estimates would then be regarded as a standard against which the counts should be judged. But such an approach is untenable if we have less faith in the estimates than in the counts.

We now see that the use of the estimates lies in detecting gross deviations from what would be expected. If the estimates were used for a more sophisticated purpose, such as the selection of states for detailed audit, it is not clear that the states with the greatest potential for having invalid counts would be selected. An additional danger in using the estimates in a more refined scheme is that the estimates might be regarded as targets, by SEAs or LEAs, especially if it was well known that deviations from the estimates might have undesired consequences. While the setting of a target can be seen as a positive step toward informing SEAs and LEAs of BEH's expectations, it also creates an incentive to achieve the target and this might be done by identifying children with mild disabilities or with no disability as needing services or by not identifying children with genuine need.

The steps we have taken to generate the estimates has been to:

(1) Identify potential data sources.

(2) Review the sources with respect to their usefulness in generating estimates.

(3) Review the sources with respect to demographic and socioeconomic factors that would contribute to variation in prevalence or number served across states.

(4) Stratify the population of children from birth to 21 years of age by relevant socioeconomic and demographic variables.

(5) Derive alternative sets of plausible prevalence rates for each stratum.

(6) Derive a set of projections of the size of the population in each stratum for each state.

(7) Apply the prevalence rates to the projections to derive preliminary estimates of the counts.

(8) Adjust the preliminary estimates for the PL 89-313 count to arrive at final sets of alternative estimates.

In the next section we discuss some of the issues in estimations that cut across handicapping conditions. We then describe the data bases and sources that we have found, and briefly describe our literature search. Finally, we describe in detail the procedure we used for generating the estimates.

Issues Regarding Estimation

In our search for data sources and our review of past exercises to generate estimates, there are a number of issues that arise over and over again. These pertain to the complexity of the population of interest and the complexity of factors affecting its size.

The Population of Interest

The population of interest consists of handicapped children who are receiving special education and related services and who are not counted under section 121 of the ESEA Act of 1965 as amended by PL 89-313. The terms "handicapped children," "special education," and "related services," are further defined in the Act and proposed regulations (Federal Register, Vol. 41, No. 252, pages 56966-56998)*. Based on the Act and proposed regulations, children who are counted by an SEA must:

---

* It should be noted that the generation of estimates process relied on the definitions contained in the proposed regulations.

(1) Be between the ages of 3 and 21 inclusive.

(2) Reside in the state.

(3) Have been evaluated, reevaluated, and placed in accordance with procedures described in the proposed regulations (§121a.430-121a.433), which include the use of appropriate testing and evaluation materials administered by certified personnel, placement on the basis of more than a single test result, and evaluation by a team knowledgeable about the child, the evaluation results, and the placement options.

(4) Have been evaluated as being mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, or having specific learning disabilities, where these terms are defined in the proposed regulations.

(5) Need special education and related services because of their impairments.

(6) Be enrolled on the specified date (October 1 or February 1) in a school or program that provides special education, defined in §602(16) of the Act as "specially designed instruction, at no cost to the parents or guardians, to meet the unique needs of a handicapped child."

(7) Be receiving whatever related services, such as transportation, physical therapy, and psychological services, that are necessary to assist in benefiting from special education.

(8) Not be counted by a state agency under PL 89-313.

The population of interest is therefore very complex. Criteria for belonging to the population include matters of evaluation, need, placement, and service delivery, as well as age, state of residence, and handicapping disability.

The situation is further complicated by variations in the categorization of handicapping disabilities, the definition of the disabilities and the diagnostic practices across the states. Since categorical systems, definitions of handicapping conditions, evaluation specifications,

and distinctions between special education and related services, vary widely across states,* we are dealing potentially with a different population for each state rather than with a single uniform population. Also, there is a relationship between the size of the handicapped population in need and the availability of services to fulfill that need. Where funds and personnel are available to provide services or where funding incentives exist, children with relatively marginal disabilities may be considered in need of the services. This is not necessarily undesirable. Such policies do indicate that the need component specified for the population of interest is also variable across states and no doubt across responsible local agencies within states.

The experience of the Head Start program in serving handicapped children is an example of where need may be a function of external factors. In 1972, Congress mandated that Head Start increase the percentage of handicapped children being served to 10%. Robert Bogdan† examined the impact of the mandate in 30 Head Start programs. He found that the overall composition of the population being served changed only slightly, if at all. After child-find operations uncovered very few unserved severely impaired children, the deficit in the 10% quota had to be made up of children in the existing program. Although children were diagnosed by professionals, it was still up to the Head Start staff to designate children as handicapped. As a result:

> Staffs in different programs developed their own definitions and applied them in order to meet the demands of the mandate. Variations in enrollment rates of the handicapped were thus meaningful only in relation to the varied concepts of 'handicapped,' which changed from program to program (Bogdan, 1976, p. 232).

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* The Council for Exceptional Children is currently conducting a project funded by BEH that assesses the variation across states in categorical definitions, diagnostic methods, diagnostic criteria and personnel utilization in the classification of handicapped children.

† Robert Bogdan, "National Policy and Situated Meaning: The Case of Head Start and the Handicapped," American Journal of Orthopsychiatry 46(2) (April 1976).

Much controversy among professionals still surrounds the definitions of handicapping conditions, criteria for evaluation, and assessment of need for special education. There are generally no distinct boundaries separating the handicapped from the nonhandicapped. We are usually dealing with a continuum of abilities, skills, or behavior and, with the exception of the relatively few children at the extremes, are judging disabilities in terms of deviance from some norm. For the severe disabilities, there is general agreement of diagnosis and need, but severely disabled children constitute a very small proportion of the handicapped. For a substantial proportion of the population of children who have moderate disabilities, the decision as to whether or not they need services will depend on such factors as tolerance of their regular teacher and peers, availability of the services, and funding advantages to the LEA.

To the extent that professionals cannot agree on definitions, diagnostic procedures, and the need for services, the population of children with handicapping disabilities who are in need of special education is not well defined. To the extent that the population is not well defined, its size is indeterminant.

Categorization of the Population

The number of children being served are reported to BEH broken out by three age categories and nine major handicapping conditions for each date specified in the Act. However, the entitlements and incentive grants to states are calculated on the basis of three numbers:

- The total number of handicapped children aged 3 through 21;
- The number of children classified as having specific learning disabilities;
- The number of handicapped children between the ages 3 and 5.

One issue regarding categorization pertains to the way in which the term "handicapped children" is defined in the proposed regulations. According to this definition a child must have been evaluated as being in one of the nine disability categories listed in the Act. This

appears to mandate the categorization scheme to be used by states and local agencies. The question then arises whether children may be counted if they were not evaluated into one of these categories. This would include children who live in states such as Massachusetts that have a noncategorical typology for special education, and children in states such as California that do not have a categorical structure that totally corresponds to the one specified in the Act and regulations.

Another, more basic issue is the extent to which the edit of the counts and review of procedures should be concerned with the categorization process and report of counts by category. The pros and cons of categorizing handicapped children by major disability have been debated extensively. The Project on Classification of Exceptional Children, led by Nicholas Hobbs, recognized the necessity of classifying children in order to plan, organize, and evaluate special programs and interventions. Hobbs states that "classification is essential to providing services for children and a label may be a child's ticket to getting help."* Nevertheless, he also recognized the inadequacy of the currently available classification systems: their imprecision, their tendency to stereotype and stigmatize individual children, and their tendency to hinder assessment of appropriate interventions.

For our purposes, the report of the number of children being served broken out by handicapping disability is a given. The only question is the extent to which the edit procedure needs to get into matters of categorization of children. The special treatment of children categorized as having specific learning disabilities, especially the 2% lid and the evaluation requirements in the proposed regulations, would require that attention be paid as to how states and local educational agencies treat these children. The problem is, however, that there is perhaps more divergence of professional opinion regarding the definition,

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* Nicholas Hobbs, The Futures of Children, Jossey-Bass Publishers, San Francisco, 1975, p. 13.

diagnosis, and prevalence of learning disabilities than about any other type of disability. In fact, this lack of consensus among professionals in the field of learning disabilities is the reason for Congress imposing the 2% lid in the first place. In any event, the edit procedure and the generation of estimates should at least initially take advantage of the detail in which the counts are reported. That is, edit checks should be made on the counts for each handicap category individually.

The Factors Affecting the Size of the Served Population

The process by which the estimates are generated should, ideally, incorporate various factors that affect the size of the served population. These factors, some of which are listed in Table 1, include the number of children in the state who have handicapping impairments, the

Table 1

FACTORS AFFECTING THE SIZE OF THE POPULATION OF HANDICAPPED CHILDREN RECEIVING SPECIAL EDUCATION AND RELATED SERVICES

Prevalence of Handicapping Disabilities:

- Demographic characteristics of student population
- Socioeconomic characteristics of student population
- Size of student population
- State definitions of disabilities

Identification, Evaluation and Placement:

- Type of child-find efforts
- Level of child-find effort
- Type of evaluation procedures used
- Type of evaluation personnel employed
- Availability of evaluation resources and personnel
- Degree of parent cooperation

Table 1 (Concluded)

Identification, Evaluation and Placement: (cont.)

- Incentives or disincentives in identifying children as handicapped (e.g., state finance of special education)
- Timing of evaluation and placement activities during the school year

Service Delivery:

- State/local definition of special education
- State/local definition of related services
- Restrictions by state law on the provision of special education and related services to specific age groups
- State or local capacity to provide special education and related services (availability of personnel, facilities, and resources)

state definitions of children requiring special education, the amount of funds, facilities, and personnel available to provide special education and related services, and the motivation and political factors within the state to provide the necessary services. If we could incorporate in our estimation procedure these and other factors related to the size of the population being served we could, ideally, come up with a standard against which the counts could be judged. Discrepancies between the estimates and the state-reported counts could then be attributed to other factors, supposedly making the counts invalid. These would include:

- Unresolved inconsistencies between federal and state (or local) definitions of handicapping conditions, special education, and related services.
- Evaluation and placement procedures and personnel utilization not in compliance with the Act or regulations.
- Defects in the state or local data collection and aggregation procedures, including: quality control, edit, comprehensiveness of data collection, precautions against double counting, exclusion of children counted under PL 89-313.

Unfortunately, many of the critical factors that contribute to the size of the served population are not quantifiable and it would be impossible to relate the factors to the population size analytically. What this means is that the estimates being generated must be considered to be extremely crude at this point. As data accumulate over the time during which the Act is being implemented we anticipate that the estimates will become more accurate and that measures of accuracy (or error) can also be made.

Review of Sources Available

The scope of our project was to generate estimates based on a secondary analysis of already-existing data. We found, as we expected, that no single data source came close to being adequate for our purposes because the data were outdated. The data were on a population that was not consistent with the one with which we were concerned, or the data definitions of categories were nonexistent or were not consistent with those mandated in PL 94-142.

The Search for Sources

A major effort in the initial stages of the project was devoted to ferreting out potential data sources for use in the generation of expected frequencies. This effort included a literature search, a review of procedures and sources used in previous prevalence studies, and contact with numerous public and private agencies that we felt either might have data themselves or might have knowledge of other sources of data. Our initial contacts in this regard were provided by Dr. Alan Abeson of the Council for Exceptional Children (CEC). Table 2 contains the list of persons and organizations contacted. Our literature search included computer-assisted searches through the ERIC data base, the CEC-maintained Exceptional Child data base, and the National Library of Medicine's MEDLINE data base.

Table 2

ORGANIZATIONS AND PERSONS CONTACTED

Organization Contacted	Person Contacted
American Association of School Administrators	Tom Mitchell
American Foundation for the Blind	Mary Mulholand, Publications Director
American Printing House for the Blind	Dr. Nolan, Director Pat Straub
Alabama Department of Education	Cecil Bobo, Coordinator Programs for Exceptional Children and Youth
Alexander Graham Bell Associates	Mr. Miller
Batelle Memorial	Jean Newberg, Staff Psychologist
Bureau of Census Information Branch, Population Division Education & Social Stratification Branch, Population Div.	 Mrs. Clawson Ms. Bruno
Bureau of Education for the Handicapped (BEH) Office of the Deputy Commissioner (ODC) Division of Aid to States (DAS) Division of Innovation and Development (DID) Program Management Information	 Slagle Allbritton Linda Glidewell, William Halloran, Dianna Hamburg John Davis, Mary Kennedy Bert Weiner
California State Department of Education Department of Special Education, Research Support Program	Dr. Margaret Scheffelin, Consultant Dr. S. Greenfeld, Chief
Colorado Department of Education	Kay Cessna, Consultant Special Education Services
Council for Exceptional Children (CEC)	Dr. Alan Abeson, Lynn Smart, Diane Newkirk
Education Commission of the States Handicapped Children's Project	C.D. Jones
Education Management Services (EMS)	Richard DeBlieck, Business Manager

Table 2 (Continued)

Organization Contacted	Person Contacted
Epilepsy Foundation of America (EFA)	Ann Britton
Gallaudet College Office of Demographic Studies	Arthur Schildroth, Statistician
General Accounting Office (GAO) Distribution Section	William Roley
IMS America, Ltd.	Joan Strauss
Indiana State Department of Public Instruction Model Education Resource Center (MERC)	Dr. M. Wasi Khan
Management Analysis Center (MAC)	Chuck Bernstein Scott Parker, Vice President
Michigan State Department of Education State Assistance for the Handicapped Program, Special Education Services	Jan Baxter, Supervisor
Minnesota Department of Education	Roy Anderson, Administrator State & Federal Programs for the Handicapped
National Association of Children with Learning Disabilities (NACLD)	Dr. Sylvia Richardson, Advisory Board Member
National Association of the Deaf	Mrs. Olmert, Publications
National Eye Institute	Publications
National Association of Mental Health	Fran Bradley
National Association of Retarded Citizens (NARC)	Sherrie Vaughn
National Association for State Directors of Special Education (NASDSE)	Bill Wilson
National Center for Educational Statistics (NCES)	Forrest Harrison, Jerry Kahn Jeff Williams, Les Silverman

Table 2 (Continued)

Organization Contacted	Person Contacted
National Institute of Mental Health (NIMH)	
Division of Biometry and Epidemiology	Dr. Richard Redick
National Clearinghouse for Mental Health Information	Dorothy Waleski, Chief
Elementary Branch	Mrs. Wilner
National Epilepsy Foundation	Pam McGarvey
National Center for Health Statistics (NCHS)	Jean Roberts
National Institute of Child Health and Human Development (NICHD), Program Analysis Section-Office of Planning and Analysis	Sheila Hollies, Chief
National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)--Developmental Neurological Disorders Program	Dr. Halsey Marsden Dr. Joseph Drage
National Society for the Prevention of Blindness	Mrs. Hatfield, Statistician
Nebraska Department of Education	John Clark, Management Consultant Planning and Development
Office of Child Development (OCD)	
Head Start Program	Dr. Linda Randolph
Children's Bureau	Frank Ferro, Associate Chief
Office of Civil Rights (OCR)	Nelson Ford, Consultant
Office of Assistant Secretary for Planning & Evaluation	Mr. Al Hill Barbara White, Programmer Supervisor
Office of Human Development	Dr. Bill Bean
Office of Handicapped Individuals	
Office of Program Planning	Sandara Brotman
Aid to States Branch	
Pennsylvania State Department of Education	Elaine Gilvear, Director of Special Projects
Special Education Department	

Table 2 (Concluded)

Organization Contacted	Person Contacted
Rand Corporation	James Kakalik, Statistician
Seaside Regional Center (Connecticut)	Fred Finn, Superintendent
State of Idaho Special Education Department--Child Find	Dr. Martha Noffsinger, Head
University of Arizona Department of Special Education	Dr. Corrine Kass
United Cerebral Palsy Association (UCPA)--Professional Services Department	Karen Christian Mrs. Ann Wilson
University of Illinois Institute for Child Behavior and Development	Dr. Karnes Dr. Reid Zehrbach
University of Minnesota (Perinatal Study) Department of Special Education	Dr. Bruce Balow
University of Oregon (Perinatal Study) Medical School	Dr. John Isom
Utah State Board of Education	Randy Sorensen, Resource Consultant
Washington State Department of Special Education--Child Find	Dick Hopkins, Director
Western Illinois University Office of Education Services and Research	Office of Natalie Sprull
Wisconsin Division of Special Education	Stephanie Petska, Administrative Assistant to Director of Special Education

The Sources Identified

The sources we identified in the literature search are listed in the References. Table 3 contains a list of the sources we have identified and used to some extent in generating the prevalence estimates. Corresponding to each source is information regarding the handicap disabilities covered, the type of estimates produced, the type of source, the

Table 3

SOURCES OF INFORMATION FOR GENERATING ESTIMATES

Series Number	Source	Mental Retard	Hard Hearing	Deaf	Speech Impair	Visually Impair	Serious Emotion Disturb	Ortho Impair	Other Health Impair	Specific Learning Disabled	Other	Gifted	Type of Estimate	Primary/ Secondary/ Review	Method	Population Covered
100.00	1975-1976 BEH Estimates (BEH)	X	X	X	X	X	X	X	X	X	-	-	Need Served	Secondary Primary	Various sources for prevalence; state reports for served	Pupils ages 0-19 in U.S.
102.00	1974 Head Start Survey (OCD)	X	X	X	X	1*	X	2	3	-	-	-	Served	Primary	Mail-out census of all Head Start grantees and delegate agencies	Children in Head Start in full year programs
104.00	1973 OCR Survey (OCR/ OMEN)	5	6	6	6	6	7	6	6	6	X	-	Served	Primary	Survey of schools in selected districts	Pupils enrolled in local public schools in selected districts
106.00	Fleischmann Report (1973)	5	8	8	X	X	X	9	9	X	10	-	Prevalence	Secondary	Conservative and liberal composites from number of sources	Pupils aged 5-19 in U.S.
108.00	Services for Handicapped Youth: A Program Overview (Kakalik et al., 1973)	X	8	8	X	X	X	X	X	X	10	-	Prevalence Served	Review	---	Youth
110.00	Prevalence of Selected Impairments, U.S. 1971 Health Interview Survey (NCHS)	-	8	8	X	X	-	X	-	-	-	-	Prevalence	Primary	Survey of 44,000 households	Civilian non-institutionalized population
112.00	Statistics on Education of the Handicapped in Local Public Schools, Spring 1970 (NCES, Mats)	X	X	X	X	12	X	4	-	X	-	-	Need Served Staff Resources	Primary	Survey of approximately 2,000 principals of local public schools; national stratified sample of schools with enrollment ≥ 300	Pupils enrolled in local public schools with school enrollment ≥ 300
114.00	Behavior Patterns in School of Youths 12-17 Years, 1966-70 National Health Examination Survey (NCHS)	X	8	8	X	X	X	X	-	-	X	X	Need Served	Primary	Examination, tests, questionnaires on random sample of 6,768 youth	Noninstitutionalized youth 12-17 years within continental U.S.
116.00	Educational Programs for Exceptional Children: Resource Configurations and Costs (Rossmiller, 1970)	5	8	8	X	X	X	9	9	X	10	X	Need	Secondary	Composite from number of sources	Pupils 17 years and below in U.S.
118.00	Special Education in the United States: Statistics 1948-66 (Mackie, 1969)	X	X	X	X	1	13	X	X	-	-	X	Need	Secondary	Composite from number of sources	Pupils aged 17 and below in U.S.
120.00	Behavior Patterns of Children in School, 1963-65 National Health Examination Survey of Children 6-11 Years (NCHS)	X	8	8	X	X	X	X	-	-	X	X	Need Served	Primary	Examination, tests, questionnaires on random sample of 7,119 children	Noninstitutionalized children 6-11 years within continental U.S.
122.00	Studies of Handicapped Students, Volume II, 1963-65 NCHS Data (Craig, 1977)	X	8	8	X	X	X	X	-	-	X	X	Need	Primary	Reanalysis of NCHS data	Noninstitutionalized children 6-11 years within continental U.S.
124.00	Statistics of Special Education for Exceptional Children and Youth, 1957-58[14] (Mackie et al., 1963)	X	X	X	X	1	13	X	X	-	-	X	n.a.	n.a.	n.a.	n.a.
126.00	College and University Programs for the Preparation of Teachers of Exceptional Children[14] (Mackie and Dunn, 1954)	X	8	8	X	X	13	X	X	-	-	X	n.a.	n.a.	n.a.	n.a.

* Numbers refer to footnotes at end of Table 3.

Table 3 (Continued)

Series Number	Source	Mental Retard	Hard Hearing	Deaf	Speech Impair	Visually Impair	Serious Emotion Disturb	Ortho Impair	Other Health Impair	Specific Learning Disabled	Other	Gifted	Type of Estimate	Primary/ Secondary/ Review	Method	Population Covered
200.00	Directory of Learning Disabilities Services for State Education Agencies (NASDSE, 1976)									40			Prevalence	Primary	Compiled data from a mail survey of SEA personnel	54 "states" including the District of Columbia, Puerto Rico and the Bureau of Indian Affairs
202.00	1975 Annual Survey (American Printing House for the Blind)					15							Served	Primary	Annual census of legally blind. Information on pupils enrolled as of first Monday in January who are "legally blind" and enrolled for formal schooling. Collected from reporting agencies.	Estimated population of 28,993 in K-12, ungraded, postgraduate, adult trainees, deaf-blind, cerebral palsy in schools for blind and state depts. of education
204.00	Support for Vision Research (National Advisory Eye Council)					X							Incidence Prevalence	Secondary	Head data garnered from the Health Interview Survey (HCHS) National Disease and Therapeutic Index; and Statistics on Blindness in the Model Reporting Area (1970-74)	All ages
206.00	"Severely Emotionally Disturbed" A (Kauffman, 1974)						X						Need	Secondary	Composite of various sources	Institutionalized school-age children in U.S.
208.00	Learning Disabilities (McCarthy and McCarthy, 1974)									16			Prevalence	Secondary	Review of literature	School-age children
210.00	1973-74 Survey of Awareness of Epilepsy Among Educators (Epilepsy Foundation of America)								17				Prevalence Staff Resources	Primary	Sent questionnaires to 50 state directors of special education	38 states responded, 7 states reported they had no data on epilepsy
212.00	The Economics of Mental Retardation (Conley, 1973)	18											Prevalence Staff Resources	Secondary	Composite from number of sources	0-20 years of age and adult population
214.00	A Strategy for Evaluating Health Services (Institute of Medicine, Hanover, 1973)		X			18							Prevalence	Review	Review of studies	School-age children
216.00	1970-71 Annual Survey Characteristics of Hearing Impaired Students (Office of Demographic Studies, Gallaudet College)		19	19									Served	Primary	Sent questionnaires to 755 programs that offered special education services	41,000 hearing impaired students in 755 special education programs
218.00	The Deaf Population in the U.S., 1970 (National Association of the Deaf, Schein)		X	20									Prevalence	Primary	Verified national list of known deaf persons and NCHS's Health Interview Survey (HIS) 1970	Total population of 410,522 of all ages; unduplicated counts, 98,448 on verified national list 312,074 of the HIS survey
220.00	1970 Survey of Public School Special Education Programs for Emotionally Disturbed Children (University of Illinois, Hirshoren)						31						Prevalence	Primary	Questionnaires were sent to directors of special education in each of 50 states and the District of Columbia, tabulation was then made for the entire country, and by region	51 directors of special education or the specialist in the emotionally disturbed field returned questionnaires
222.00	"Age Distribution of Blind Persons in U.S." (National Society for the Prevention of Blindness, 1970)					22							Incidence Prevalence	Secondary	Uses statistics from the source Statistics on Blindness in the Model Reporting Area, 1968-70	Ages 0-20, 20-44, 45-65, 64 and over
224.00	Epidemiology of Mental Retardation (Reber, 1970)	X											Prevalence	Review	Review of literature	Ages 0-19

Table 3 (Continued)

Series Number	Source	Mental Retard	Hard Hearing	Deaf	Speech Impair	Visually Impair	Serious Emotion Disturb	Ortho Impair	Other Health Impair	Specif. Learning Disabled	Other	Gifted	Type of Estimate	Primary/ Secondary/ Review	Method	Population Covered
227.00	1969-70 Annual Survey, Summary of Selected Characteristics of Hearing Impaired Students (Office of Demographic Studies, Gallaudet College)		19	29									Served	Primary	All educational programs known to Gallaudet's Survey office asked to participate. Data were gathered through forms.	35,785 students enrolled in education programs for hearing impaired
228.00	The Making of Blind Men (Scor', 1949)					X							Prevalence	Secondary	Review of four surveys; then generated own estimates	0-21 years of age and 18-23 years of age
230.00	1968-69 Study "Why Are They Blind?", The Sight-Saving Review (Hatfield, 1975)					1							Prevalence	Primary	Data from eye reports supplied by residential schools for blind, state dept. of education, local school systems, state agencies for the blind	Study sample of 3,883 students represents 19.2% of the 20,216 registered with the AFB. School-age children between 5-19 in 68-69 school year
232.00	1968-69 National Speech and Hearing Survey (Hull, et al., 1976)				23								Prevalence	Primary	Population sample taken from public schools list of students in 48 states and the District of Columbia	38,884 students tested for hearing and speech impairments. (38,568 hearing tests and 38,802 speech tests)
234.00	"Natural History of Mental Retardation: Some Aspects of Epidemiology," American Journal of Mental Deficiency, Pomona, California (Tarjan 1949-51, 1954-61, 1966-68)	24											Need	Primary	Utilizes data on 3 admission cohorts to estimate prevalence at 1% level with approximate sample of 2,000	Pacific State Hospital patients in residence for 3 admission cohorts
236.00	"Speech Disorders and Speech Correction," Journal of Speech and Hearing Disorders (ASHA Committee on the Mid-century White Conference, 1952)				25								Incidence	Review	n.a.	Assumed population of 40,000 between ages of 5-21 years and all ages
300.50	Wisconsin Estimates of Exceptional Children Being Served (1975-76, 1974-75, 1973-74)	5	8	8	X	X	X	26	26	X	27	-	Served	Primary	Annual mail survey of 435 LEAs	Public school-age children in Wisconsin
302.00	Nebraska Estimates of Exceptional Children Being Served (1974-75, 1975-76)	38	8	8	X	X	X	X	-	X	-	-	Served	Primary	Derived from enrollment figures, K-12 and review of several sources	Public school-age children in Nebraska
304.00	Michigan Estimates of Exceptional Children Being Served (1975-76)	11	8	8	X	X	X	9	9	X	10 28	-	Served	Primary	Compilation of data from LEA applications for special education funds	Public and non-public school-age children in Michigan
306.00	Special Education Teacher Demand & Supply for Elementary Schools in Pennsylvania (1974-75)	11	8	8	-	X	13	9	9	29	30	-	Need Staff Resources	Primary	Compilation of data from Commonwealth reimbursement forms, teacher hire forms and pupil enrollment figures from all LEAs & IEUs in the state	Public elementary & secondary school children in Pennsylvania
308.00	Indiana Study of Special Education Needs & Programs, Phase I (1973-74)	11	X	X	31	1	X	9	9	32	10	-	Need Served	Primary	Mail survey of public, private and parochial school principals and director of special education	Public and non-public school-age children in Indiana

Table 3 (Continued)

Series Number	Source	Mental Retard	Hard Hearing	Deaf	Speech Impair	Visually Impair	Serious Emotion Disturb	Ortho Impair	Other Health Impair	Specific Learning Disabled	Other	Gifted	Type of Estimate	Primary/ Secondary/ Review	Method	Population Covered
310.00	A Study of the Status of Educational Services for the Handicapped in the State of Minnesota (1973-74)	5	5	5	5	X	41	9	9	42	38	-	Need Served	Primary	Inventories and profiles status of educational services for the handicapped; interviews with parent and/or professional organizations; mail survey of parents of handicapped children receiving services	School-age children in Minnesota
312.00	Programmatic Cost Differentials in Delaware School Districts (Rossmiller, 1973)	5	8	8	X	X	13	X	-	40	-	-	Need Served	Primary	Derived from enrollment figures and other data	Public school-age children in Delaware
314.00	An Educational Needs Study Report Related to Incidence of Exceptionality: A Prelude to Planning Special Educational Services in New Mexico (Spring 1973)	5	8	8	X	X	X	9	9	X	10	X	Need	Primary	Survey of local school administrators, nurses, clinicians and diagnosticians; stratified random sample of 774 children in 16 school districts	Public school-age children in New Mexico, grades 1-12 (includes gifted)
316.00	A Study of Exceptional Children in Idaho: Special Education Needs Assessment Study (Schrag, Spring 1973)	5	8	8	X	1	X	9	9	X	10	X	Need Staff Resources Service	Primary	Survey of school superintendents and district personnel; stratified random sample of 22,020 children between 9 and 11; 60 LEAs representing 12% of total school-age population	Public school-age children in Idaho (includes academically talented)
318.00	Colorado Report on Study of Learning Disabilities (1972-73)	X	8	-	X	X	X	2	-	X	-	-	Need Served	Primary	Census conducted by principals and administrators, study conducted by school psychologists of a random sample of children, a screening of children at selected grade levels	Children, ages 3-21, enrolled in public elementary and secondary schools
320.00	N. Dakota Estimates of Exceptional Children[33] (1972-73)	X	39	-	X	X	13	X	X	40	-	-	n.a.	n.a.	n.a.	School-age children
322.00	Alabama Estimates of Exceptional Children[33] (1972)	X	39	-	X	41	13	X	X	40	-	-	n.a.	n.a.	n.a.	School-age children
324.00	N.E. Minnesota Estimates of Exceptional Children[33] (1972)	5	39	-	X	X	13	2	-	40	-	-	n.a.	n.a.	n.a.	Public school-age children
326.00	Utah Estimates of Exceptional Children[33] (1972)	5	X	X	X	X	13	X	2	40	10	-	n.a.	n.a.	n.a.	School-age children
328.00	"Identifying Preschoolers with Special Needs: A County-Wide Project to Help Plan Future Special Services in the Public Schools," Montgomery County, Pennsylvania (1971-72)	X	8	8	X	X	X	9	9	29	10	-	Need	Primary	Survey of health and welfare agencies, schools and professionals, extensive contacts with parents	Montgomery County children, 0-21 years in public school
330.00	Kentucky Estimates of Exceptional Children[33] (1971)	11	39	-	X	X	13	2	-	40	10	X	n.a.	n.a.	n.a.	School-age children
332.00	Special Education Program Needs, South Central Minnesota (1969-70)	5	X	X	X	1	13	X	X	-	-	-	Need	Primary	Derived prevalence estimates from Northeastern Minnesota study and USOE data	Public school-age children in 2 LEA cooperatives in South Central Minnesota

Table 3 (Concluded)

Series Number	Study	Mental Retard	Hard Hearing	Deaf	Speech Impair	Visually Impair	Serious Emotion Disturb	Ortho Impair	Other Health Impair	Specific Learning Disabled	Other	Gifted	Type of Estimate	Primary/ Secondary/ Review	Method	Population Covered
334.00	Wisconsin Estimates of Exceptional Children[14] (1969-70)	3	X	-	X	X	X	X	-	XX	10	-	n.a.	n.a.	n.a.	n.a.
336.00	California Estimates of Exceptional Children[14] (1968)	5	6	-	X	X	-	2	-	32	10	-	n.a.	n.a.	n.a.	n.a.
338.00	The Report of the Study on the Educational Needs of Physically Handicapped Children in Pittsburgh, Pennsylvania 1958-59, Prevalence Study (Fouracre et al., July 1961)	X	8	8	X	1	X	X	X	-	-	-	Head	Primary	Survey of public and Catholic parochial school teachers; approximately 10% sample of 12 public and 9 Catholic parochial schools with pupil enrollment of 13,764	Public and Catholic parochial school children in the City of Pittsburgh, K-12; breakouts by SES, sex, age and race
400.00	"Epidemiology of Severe Mental Retardation in Children: Community Studies" (Abramowicz & Richardson, 1975)	35											Prevalence	Review	Review of 27 Community Studies	Ages 0-19
402.00	"Ethnicity, Geographic Locale, Age, Sex, and Urban-Rural Residence as Variables in the Prevalence of Mild Retardation," Pima County, Arizona (Reschly & Jipson, Winter 1976)	34											Prevalence	Primary	Tested stratified random sample of 1,040 children with WISC-R	Public school-age children at grade levels 1, 3, 5, 7 and 9 in Pima County, Arizona
404.00	"Prevalence Survey of Severely Mentally Retarded in Wyandotte County, Kansas" (Payne, 1971)	35											Prevalence Incidence	Primary	Survey of individuals diagnosed as SMR and their parents	Resident population, age 0-20 in Wyandotte County, Kansas
406.00	Statistics on Blindness in the Model Reporting Area (Kahn, 1969-70)					36							Prevalence Incidence	Primary	Compilation of data from state agency register of blind persons in 16 states; 99,347 persons listed for 1970	Registered blind persons in MRAs as of Dec. 31; breakouts for age, race, and sex
408.00	"Preliminary Results of a Field Epidemiologic Study"[37] (Imre, 1965)	X											Prevalence	n.a.	n.a.	Children 5-19 years, unidentified Maryland County
410.00	"The Ecology of Retardation: Two Views," Riverside Community Study (McAllister/ Mercer, 1963)	13											Prevalence	Primary	Survey of household members, IQ tests on 10% of samples, and measurement of adaptive behavior	Ten percent random sample of city population
412.00	"A Prevalence Study of Mental Retardation in a Metropolitan Area," Onondaga County, New York (Goodman et al., 1953)	X											Need Served Incidence	Primary	Case study of private or public social and health agencies, schools, and physicians; identification of 3,789 cases of MR	Individuals 0-18 on 3-1-53; breakouts for age, race and sex

Footnotes to Table 3

[1] Broken out by partially sighted and blind.

[2] Included under "physically impaired."

[3] Termed "health or developmentally impaired."

[4] As they appear in Haring (1974) p. 384.

[5] Broken out by EMR (Educable Mentally Retarded) and TMR (Trainable Mentally Retarded).

[6] Impairments included under a single "special disability" category.

[7] Included in "other" category.

[8] Hard of hearing and deaf combined.

[9] Included under one category (physically handicapped, crippled, and other health impaired.

[10] Category for multiple handicapped.

[11] Broken out by EMR, TMR, and SMR (Severely Mentally Retarded).

[12] All categories reported under pupils in special education programs.

[13] Includes socially maladjusted.

[14] As they appear in Rossmiller (1970) pp. 24, 121.

[15] Degree of impairment broken out according to ability to read "large type," "braille" or both.

[16] Broken out by neurological impairment, functional impairment and unconfirmed neurological impairment.

[17] Deals with epilepsy.

[18] Broken out by severity.

[19] Classification of the degree of impairment presented in decibel levels.

[20] Termed "bilateral impairment" and "prevocationally deaf."

[21] Also termed as emotionally disturbed, emotionally handicapped, emotionally maladjusted, educationally handicapped, emotional conflict, exceptional children.

Footnotes for Table 3 (Concluded)

[22] Deals with the legally blind population only.

[23] Also described as "voice disorders."

[24] Includes home instruction, hospital instruction, school psychological services.

[25] Broken out by type of defect (i.e., stuttering, voice, cleft palate, speech).

[26] Termed as physically/multiply handicapped including hospitalized, and homebound.

[27] Includes school-age mothers (12-20) and gives an estimate of early childhood population (3-5).

[28] Category for homebound and hospitalized.

[29] Termed brain injured.

[30] Includes art/physical education/job placement; detention homes; diagnostic/clinical; gifted; talented; physical therapy; resource room; speech and hearing; speech and language; other.

[31] Termed oral communication disability, communication handicapped.

[32] Termed "neurologically impaired/learning disabled."

[33] As they appear in Schrag (June 1974) p. 6.

[34] Also includes mild mental retardation.

[35] SMR only.

[36] Ten categories of visual acuity presented.

[37] As they appear in Conley (1973) pp. 6-49.

[38] Broken out by educable mentally handicapped and mentally retarded.

[39] Termed "aurally impaired."

[40] Does not specify specific learning disabilities.

[41] Broken out by visually handicapped and blind.

[42] Termed "specific learning and behavioral problems."

methods used, and the population covered. The footnotes indicate where the categories of disabilities do not correspond to those specified by the Act. The categories "other" and "gifted" were included for completeness; they are not recognized by BEH as legitimate categories for reporting counts of children. The sources are presented in four groups:

- 100 series--sources that are national in scope and cover more than one handicapping disability.
- 200 series--sources that are national in scope and cover one specific handicapping disability.
- 300 series--sources that are less than national in scope and cover more than one handicapping disability.
- 400 series--sources that are less than national in scope and cover one specific handicapping disability.

The column labeled "Type of Estimate" indicates the nature of the handicapped population whose size or prevalence was estimated. The term "prevalence" indicates that the estimates are for the population of children with disabilities without regard to need for special education; the term "need" indicates the estimates are for children with handicapping disabilities who have a need for special education; the term "served" indicates that the children are enrolled in special education programs or are receiving special education and related services; the term "staff resources" indicates that data on the number of teachers, classrooms, or other resources are given.

The next column, labeled "Primary/Secondary/Review" indicates whether the estimates are from a primary data source, such as a survey or census; a secondary source, for example, data derived from comparisons of primary and other secondary sources or based on professional judgment; or a review, that is, a display of estimates derived by others.

The column labeled "Method" indicates the techniques used for data collection and derivation of counts.

The column labeled "Population Covered" indicates the base population from which the estimates of prevalence or size were derived. The base population was usually either the total population of children within a certain age bracket or the population of children in public schools.

Below are brief descriptions of the sources identified within each of the four series. Abstracts describing each source in more detail are contained in Appendix A.

Sources with National Coverage of Several Handicapping Disabilities (100 Series)

The primary sources of data at the national level emanate from three federal agencies: the National Center of Educational Statistics (NCES), the National Center for Health Statistics (NCHS), and the Office of Civil Rights (OCR). The Bureau for Education of the Handicapped (BEH) also collects data on the number of handicapped children served and unserved. For the estimates of the number of served children, the SEAs are the primary source of information; and for the estimates of the number of unserved children, BEH relies on several different sources. The Office of Child Development data on the number of handicapped children served by Head Start also come from a census of Head Start grantees and delegate agencies.

The data collected by NCES and OCR generally come from administrative levels--school principals and the like. The NCHS data are based on examinations or surveys of individuals or households. The NCHS data are usually medically oriented, dealing with the prevalence of disabilities, but not relating the disability or its severity to educational needs. However, the NCHS National Health Examination Surveys did include a school questionnaire where the teacher, school principal, or other school staff indicated the types of special educational resources a child needed. Craig's reanalysis of the 1963-65 NCHS data compared teacher assessment of the need for special educational services with medical examination findings, test scores, developmental histories and school behavior. The NCES 1970 Statistics on the Education of the Handicapped did deal with both need for special education and receiving special education. The OCR survey dealt solely with children in special education programs.

The secondary sources of data at the national level are generally derived from primary sources and from judgments of professionals in various fields related to providing services to the handicapped. The series of reports by Romaine Mackie and various associates have provided baseline estimates for over two decades. These estimates, with some minor modifications, are continuing to be used by BEH as the baseline to derive the number of pupils in need of services. Both the Fleischmann and Rossmiller studies reviewed earlier prevalence estimates, including Mackie's, and derived their own composites.

Kakalik's review, Services for Handicapped Youth: A Program Overview, presented prevalence estimates by handicap from several earlier studies including some of the same sources that we reviewed.

Sources with National Coverage of One Specific Handicapping Disability (200 Series)

Nineteen sources dealing with national estimates that focus on specific handicapping conditions have been reviewed. The majority of the primary sources collected their data at the administrative level from agencies or directors of special education. The Office of Demographic Studies at Gallaudet College conducts an annual survey of hearing impaired students enrolled in selected special education programs in the United States. Two forms are used to collect the data; one for students under 6 years of age and another for those 6 years or older. The reporting of hearing impairments are categorized according to the threshold levels in decibels. The survey conducted by the National Association of the Deaf compiled a national list of deaf persons and sampled and interviewed all prevocationally deaf persons in their household sample. Data from the 1970 Health Interview Survey were used for completeness in estimating the prevocationally deaf population.

Surveys on estimates of the blind population are conducted by the American Printing House for the Blind (APHB), which gathers data on pupils enrolled as of the first Monday in January of each year, who are legally blind and enrolled in formal schooling. Certification is required by a physician and the reporting agencies (who receive federal

funds for educational materials) verify the cases to the APHB. However, the data are reported according to categories of "large type," "brailles," or both. The Society for the Prevention of Blindness developed forms for residential or public schools to secure information on students with vision problems. Elizabeth Hatfield collected data from eye reports supplied by residential schools for the blind, state departments of education, local school systems and state agencies for the blind; and from these data she generated prevalence rates. In conversations with Ms. Hatfield she expressed discontent with the completeness or accuracy of reporting on these children.

The 1970 Survey of Public School Special Education Programs for Emotionally Disturbed Children sent questionnaires to directors of special education in each of the 50 states. In this survey, respondents were asked to give prevalence estimates. The authors found that half of the states participating in this survey used USOE estimates and 13 indicated their estimates to be based on local or statewide studies.

The National Speech and Hearing Survey sampled students in grades K-12 in public school districts in 48 states and the District of Columbia who were given hearing tests and speech evaluation to determine "voice disorders." The Epilepsy Foundation of America sent out questionnaires to 50 state directors of special education, and tabulated its findings. The data were then compared with the states' estimates and with EFA estimates from 1971.

The National Association of State Directors of Special Education (NASDSE) compiled data on the prevalence of learning disabilities, from a mail survey of SEA personnel. In the area of mental retardation Tarjan and his associates studied three admission cohorts of institutionalized individuals at the Pacific State Hospital in Pomona, California; they found a prevalence rate of 1% in a population of 100,000. The secondary sources relied primarily on available literature to generate their estimates. In research on vision, the statistics generated by the 16 states comprising the Model Reporting Area (MRA) were heavily relied upon in deriving estimates. However, various other

national surveys, such as those conducted by NCHS, were also used. McCarthy and McCarthy reviewed the literature on learning disabilities among school-age children. Conley reviewed epidemiological studies of mental retardation based on agency and household surveys, then generated his own prevalence estimates.

There were only a few review sources: Kessner's review of the literature related to visual disorders, Heber's investigation of the epidemiology of various aspects of mental retardation, and the report of the American Speech and Hearing Association's (ASHA) Mid-Century White House Conference, which called attention to the need for reeducating speech pathologists.

Sources with Less Than National Coverage of Several Handicapping Disabilities (300 Series)

At the state and local levels, thirteen primary data sources have been identified. Ten of these sources focus on estimates at the state level, two deal with estimates at the county or regional level, and one applies to estimates at the city level. In addition, state level estimates cited by other sources are also included where relevant.

For the most part, the state level estimates are derived from enrollment data or are based on surveys of local school district administrators and personnel. Wisconsin, Nebraska, and Michigan report annual updates of the number of exceptional children being served by special educational programs in each state. Other primary source data are based on studies in the following states: Pennsylvania, Indiana, Minnesota, Delaware, New Mexico, Idaho, and Colorado.

In Montgomery County, Pennsylvania (1971-72), a survey of health and welfare agencies, schools and professionals was conducted to identify handicapped children, 0-6 and 0-21 years of age not yet in public school. A study of special educational needs among public school-age children focused on two LEA cooperatives in South Central Minnesota.

The University of Pittsburgh study (1958-59) is concerned with the educational needs of physically handicapped children in the City of Pittsburgh. However, the prevalence estimates include such handicapping categories as mental retardation and emotionally disturbed. Public and Catholic parochial school children, grades K-12, represent the population covered.

Sources with Less Than National Coverage of One Specific Handicapping Disability (400 Series)

Five primary sources that deal with one specific handicapping condition were included in the 400 series. Four of these sources focus on mental retardation and one focuses on visual impairment. In addition two other sources deal with mental retardation.

Primary studies of mental retardation have been conducted in the following sites: Pima County, Arizona (1974); Wyandotte County, Kansas (1971); Riverside Community Study (1963), Riverside, California; and, Onondaga County, New York (1953).

The Pima County, Arizona study focuses on the prevalence of mild mental retardation among public school-age children at grade levels, 1, 3, 5, 7, and 9 in the county. The Wechsler Intelligence Scale for Children--Revised (WISC-R) was used to classify children as mildly mentally retarded. The Wyandotte County, Kansas study, on the other hand, is concerned with determining the prevalence and incidence of severe mental retardation (SMR) among county residents age 0-20. Individuals diagnosed as SMR and/or their parents were interviewed by the researchers.

In the Riverside Community Study, a sample 10% of households was selected on a random-stratified geographic and socioeconomic basis. Residents were interviewed and approximately 10% of the individuals were screened for evidence of intellectual impairment and behavioral retardation as determined by IQ tests.

The fourth primary source focusing on mental retardation, a case study of private or public social and health agencies, schools, and physicians, was conducted in Onondaga County, New York. The resident population, ages 0-18 on March 1, 1953, was included in this study.

Two other sources that deal with mental retardation are: A review by Abramowicz and Richardson, which focuses on the epidemiology of severe mental retardation in children, and discusses 27 community studies in the United States and elsewhere; and a field epidemiologic study conducted by Imre in an unidentified Maryland county. Imre's study was discussed in Conley's work on mental retardation.

Statistics on visually handicapped individuals are compiled by the 16 states that are members of the Model Reporting Area (MRA). However, the basic source of their data is the registration of blind persons with the appropriate state agency. It is generally believed that blind persons are often unregistered.

Limitations of Sources for Generating Estimates

Although we uncovered quite a few sources, each one had its own limitations from the point of view of being useful in generating estimates. These weaknesses include:

- Timeliness--Many of the sources, especially the primary sources, are as much as 10 years old. For estimates of the population in need of services, the age of the data is critical to the extent that definitions or categorization schemes change over time. For example, the NCHS National Health Examination Surveys did not include questions regarding the need for services for children with specific learning disabilities, since this disability was not widely recognized at the time. Similarly, the definitions and diagnostic procedures for evaluating children as mentally retarded have evolved over the past 20 years. Presumably, the size and characteristics of the mentally retarded population has changed in response.
- Population Covered--Many of the sources cover only children who are attending public school. Thus, they would miss children attending private schools, children in institutions, and children out of school and receiving services.

Also, the age coverage does not generally correspond to that mandated in the Act. Preschool children between 3 and 5 and persons above high school age are usually not covered.

- Categorization Scheme and Definitions--As indicated by the number of footnotes in the table, there is a great deal of variation in the ways in which children are categorized and the definitions of the categories. Often the categories are left undefined.
- Assessment of Accuracy--For many sources there is no assessment of the accuracy of the estimate. In some of the surveys, there are estimates of sampling error, but very little else. That is, very little is available regarding the validity of the counts reported from administrative sources. For the secondary sources, where composite estimates are made from a variety of sources, no accuracy estimates are possible, except for the traditional caveat that they can be considered only rough approximations.

Under such circumstances, it is not possible to rely on a single data source. Lack of complete coverage of children specified in the Act and inconsistencies in methods of identifying, classifying, and reporting handicaps at local and state levels preclude a simple approach to estimating frequencies by the use of a single source of data.

Method Used For Generating the Estimates

The method used to generate the estimates was to stratify the population of children age 0 to 21 by selected demographic characteristics. Plausible alternative prevalence rates within each stratum were developed for each handicapping disability and projections were made of the size of the population within each stratum, for each state. The prevalence rates were then applied to the projected population sizes to derive prevalence estimates by stratum, state, and handicapping condition. The prevalence estimates were then summed across the strata in order to project the prevalence of each handicapping disability. The strata were defined so that projections could be generated for each age category-disability combination on OE Form 9058 used by the states to report counts to BEH (see Figure 1). The resulting projected prevalence estimates were adjusted by subtracting from them the 1977 counts of children being served under PL 89-313 as reported to BEH by the states.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

STATE EDUCATION AGENCY REPORT FOR HANDICAPPED CHILDREN *(Public Law 94-142)*

REPORT OF HANDICAPPED CHILDREN RECEIVING SPECIAL EDUCATION AND RELATED SERVICES

SECTION A GENERAL

1. NAME OF STATE *(Type or print in all capitals)*

FORM APPROVED OMB NO. 51-R1203

2A. REPORT FOR *(Check one)*
☐ OCTOBER 1 ☐ FEBRUARY 1

2B. CALENDAR YEAR

SECTION B - CHILD COUNT
(See instructions below)

MAJOR HANDICAPPING DISABILITY	CHILDREN RECEIVING SPECIAL EDUCATION AND RELATED SERVICES					RESERVED FOR U.S.O.E. USE
	NUMBER OF CHILDREN BIRTH THROUGH 2 *(One time only count, 10/1/76)* (1)	NUMBER OF CHILDREN AGES 3 THROUGH 5 (2)		NUMBER OF CHILDREN AGES 6 THROUGH 21 (3)		AVERAGE NUMBER OF CHILDREN AGES 3 THROUGH 21 (4)
		OCTOBER 1 (a)	FEBRUARY 1 (b)	OCTOBER 1 (a)	FEBRUARY 1 (b)	
1. MENTALLY RETARDED						
2. HARD OF HEARING						
3. DEAF						
4. SPEECH IMPAIRED						
5. VISUALLY HANDICAPPED						
6. EMOTIONALLY DISTURBED						
7. ORTHOPEDICALLY IMPAIRED						
8. OTHER HEALTH IMPAIRED						
9. SPECIFIC LEARNING DISABLED						
10. TOTAL *(Sum of lines 1 through 9)*						

SECTION C - CERTIFICATION

I CERTIFY that these data represent an accurate and unduplicated count of handicapped children receiving special education and related services.

AUTHORIZED STATE OFFICIAL

1. NAME AND TITLE *(Type or print in all capitals)*	2. SIGNATURE	3. DATE OF OFFICIAL SIGNATURE

No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations.

INSTRUCTIONS FOR SECTION B ABOVE

For this report, do not include children counted by a State agency under Section 121 of Title I of the Elementary and Secondary Education Act of 1965, as amended by Public Law 93-380 *(Public Law 89-313)*.

Definitions for handicapping conditions can be found in Section 121.2 of the proposed child count regulations which appeared on pages 37813-17 of the September 8, 1976 issue of the FEDERAL REGISTER.

Multihandicapped children should be reported under the type of handicapping condition for which they are receiving the most special education and related services *(primary handicap)*.

(1). ONE TIME ONLY COUNT-OCTOBER 1, 1976. Indicate by type of handicapping condition, the number of children receiving special education and related services. Include total count for this column (1) line 10.

(2). In the appropriate date column, indicate, by type of handicapping condition, the number of children receiving special education and related services. Include total count for this column (2) line 10.

(3). In the appropriate date column, indicate, by type of handicapping condition, the number of children receiving special education and related services. Include total count for this column (3) line 10.

(4). To be completed by the U.S. Office of Education.

OE FORM 9058, 10/76

Figure 1 Form Used by The States to Report Counts of Handicapped Children

The projected prevalence estimates are for mid-1978 and are intended for use in the editing of counts reported by the states for October 1, 1978 and February 1, 1979. The projections represent prevalence rather than participation rates, that is, they represent the number of children with handicapping disabilities rather than the number of children served. Since the Act has as one of its goals the availability of a free appropriate public education for all handicapped children ages 3 through 18 by September 1978, it was felt that estimates of prevalence would be most appropriate.

Generation of Alternative Estimated Prevalence Rates

The data sources and pertinent literature were reviewed to survey the results of epidemiological studies of each handicapping disability. In this way, demographic and socioeconomic factors relevant to variation in prevalence were identified. These factors included age, race/ethnicity, socioeconomic status, size of place, and region. From our initial review of sources three factors were identified as the most pertinent in terms of variation in prevalence rates. These were: age, race, and socioeconomic status. The data sources were then reviewed in detail and papers were prepared on each handicapping disability. Appendix B contains these papers. Each paper reviews the issues regarding definition and evaluation, presents an overview of the sources available for the particular handicap, and describes estimates of prevalence rates overall and with respect to demographic and socioeconomic characteristics.

Based on the survey results, two sets of estimates of prevalence rates were derived for each handicapping disability. One set of estimates was generated incorporating variation in rates across age categories; the other set included the factors of ethnicity and socioeconomic status as well as age. These two approaches led to two very different sets of estimates. Our reason for generating both sets is that a great deal of controversy still exists regarding variation in prevalence rates across ethnic and socioeconomic groups, especially for such disabilities as mental retardation, speech impairment, and emotional disturbance.

The controversies concern both the standards used to define the disability and the evaluation procedures used to identify children. For example, Hull and Hull (1973) point out the disagreement in the field of speech as to whether nonstandard English used by children from economically disadvantaged areas or children from minority cultures should be regarded as deficient or as merely different from the norm. Similarly, there is the question of whether the variation across ethnic groups in the rate at which children are placed in special classes for the mentally retarded is a result of discriminatory evaluation or the result of variation in prevalence. These issues are discussed in further detail in the papers in Appendix B.

It would be presumptuous of us to attempt to resolve the many thorny issues regarding variation in prevalence within the scope of this study. Therefore, we chose to generate two alternative sets of estimates under alternative plausible assumptions regarding variation in prevalence.

The procedure for deriving the alternative rates consisted of a successive breakout of rates from overall national estimates, to estimates separately by each demographic factor, to final estimates by combinations of demographic factors. Table 4 presents the range in estimated national rates for each handicapping disability as derived from our literature review. The estimates generated by BEH are presented as well. Estimates of prevalence were generated separately using the "low" set of prevalence rates and the "high" set. The sources for these rates are identified below, by handicapping disability.

- Mentally Retarded--The low end of the range generally corresponds to estimates made by Dunn (1973) and Rossmiller (1973); the upper end is based on estimates made by Tarjan (1973) and Mackie (1969).
- Hard of Hearing--The low end of the range corresponds to estimates reported by Metz (1973) based on the 1970 School Staffing Survey; the upper end of the range corresponds to Mackie's (1969) estimate.
- Deaf--The low end of the range corresponds to the BEH 1976 estimate; the high end corresponds to estimates reported in the 1970 National Census of the Deaf Population.

Table 4

RANGE OF ESTIMATED NATIONAL RATES OF CHILDREN OF SCHOOL AGE (AGES 6 TO 17) IN NEED OF SPECIAL EDUCATION BY MAJOR HANDICAPPING DISABILITY (Per 100 Students)

Major Handicapping Disability	Range of Estimated Rates		BEH Estimates (Ages 6-19)
	Low	High	
Mentally Retarded	1.3	2.3	2.3
Hard of Hearing	0.3	0.5	0.5
Deaf	0.075	0.19	0.075
Speech Impaired	2.4	4.0	3.5
Visually Handicapped	0.05	0.16	0.1
Emotionally Disturbed	1.2	2.0	2.0
Orthopedically Impaired	0.1	0.75	0.5
Other Health Impaired	0.1	0.75	
Specific Learning Disabled	1.0	3.0	3.0
Total:	6.525	13.65	12.035*

Sources: The estimates were taken from a variety of sources. For details, see the text. Methods used by these sources range from authoritative educational guesses to complex sample surveys. The BEH estimates were taken from a mimeographed document labeled, "Estimated Number of Handicapped Children Served and Unserved, by Type of Handicap," dated March 1976.

* Includes 0.06% in Deaf-Blind and other multiple handicapped not included in other categories.

- Speech Impaired--The low end of the range corresponds to the estimate of prevalence of severe speech impairments in school-age children made in the 1968-69 National Speech and Hearing Survey; the upper end corresponds to the estimates reported by Metz (1973) based on the 1970 School Staffing Survey.
- Visually Handicapped--The low end of the range corresponds to the estimate made by Rossmiller (1973); the high end corresponds to the estimate reported by Metz (1973).

- Emotionally Disturbed--The low end of the range corresponds to the estimate reported by Metz (1973); the high end is based on the estimates reported in the NCHS Health Examination Surveys of Children and Youth, and corresponds to the estimate made by Mackie (1969).
- Orthopedically Impaired and Other Health Impaired--The low end of the range for each impairment was based on Rossmiller's (1973) estimate of prevalence in the combined categories. The high end of the range was based on estimates by Mackie (1969).
- Specific Learning Disabilities--The low and high ends of the range correspond to figures initially estimated by the National Advisory Committee on Handicapped Children in 1968 (as reported in Kirk; 1972). The high end is close to the figure reported by Metz (1973) based on the 1970 School Staffing Survey.

Generally, the interval between the low and high estimates reported in Table 4 encompasses estimates made in other studies in the field. For specific learning disabilities, however, we have encountered estimates of prevalence rates as high as 26% of the school-age population (Fleischman, 1973). Estimates in the 5% to 7% range were also found (Kirk, 1972; McCarthy and McCarthy, 1974). Because of the degree of controversy in this field, however, and the lack of empirical evidence supporting these higher rates, we decided to adhere to 3% as the high end of the range.

For each handicapping disability, weights were assigned to each category for each demographic factor. The categories used for each demographic factor are:

Age: 0-2; 3-5; 6-13; 14-17; 18-21

Poverty level: above poverty level; below poverty level

Race: White; nonwhite

The definitions of poverty level and race correspond to those used by the U.S. Bureau of the Census. A person's poverty status (being above or below poverty level) depends on whether he is a family member or unrelated individual. If he is a family member, his status is determined by comparing his family's income to a threshold for that family; if he is an unrelated individual, his status is determined by

comparing his own income to a threshold. The threshold depends on family size, family composition, and place of residence. For a more detailed discussion, see Appendix B, "Definitions and Explanations of Subject Characteristics," in Volume I, "Characteristics of the Population," in the 1970 Census of Population.

The weights assigned to demographic categories (see Table 5) are intended to reflect the relative magnitude of rates found in the studies we examined. For example, for mental retardation, the rate is assumed to be the same for the 6 to 13 and 14 to 17 age groups. It is assumed to drop to 25% of the 6 to 13 group's rate for the 3 to 5 year olds and to 5% for the 0 to 2 year olds. At the other end of the age range, the rate for 18 to 21 year olds is assumed to drop to 40% of the rate of the 6 to 17 year old age group. Similarly, it was not uncommon to find studies where the ratio of the rates of mental retardation for nonwhite to whites was 3 to 1.

Table 5

WEIGHTS USED IN THE DERIVATION OF PREVALENCE RATES BY MAJOR HANDICAPPING DISABILITY AND DEMOGRAPHIC FACTOR

Demographic Factor		Major Handicapping Disability								
		MR	HH	D	SI	VI	SED	OI	OHI	SLD
Age	0-2	5	10	10	0	10	10	10	10	0
	3-5	25	50	50	50	50	40	50	50	5
	6-13	100	100	100	100	100	100	100	100	175
	14-17	100	50	100	20	100	60	100	100	100
	18-21	40	50	50	10	50	50	50	50	25
Race	White	100	115	--*	55	--	100	--	--	--
	Nonwhite	300	100	--	100	--	160	--	--	--
Poverty Level	Above	100	100	--	--	100	100	--	--	--
	Below	200	140	--	--	175	160	--	--	--

* Assumed constant across category.

The procedure for deriving the weights was to translate the rates reported in various studies into relative weights, where one group was assigned a weight of 100. For race and socioeconomic status only those studies where no a priori assumptions were made regarding variation in rates were included at this point. For example, Dunn's view (Dunn, 1973) that by definition there should be no variation in prevalence rates of mental retardation across ethnic or socioeconomic groups was not incorporated in the process of generating the weights assigned to the racial categories. Therefore the weights reflect only those studies where some variation in rates was possible.

The set of weights shown in Table 5 represents what we regard as a consensus or compromise of the relative weights used by various studies. Again, because of the lack of agreement in the field, these weights can only be regarded as educated guesses. Those cells in Table 5 filled in with a hyphen (-) indicate that there was little or no evidence of variation in rates across the corresponding demographic categories. In some cases, such as for specific learning disabilities, no information was found regarding variation in rates.

The rates for each of the nine demographic categories--the five age categories, two race categories, and two poverty-level categories--were derived from the weights assigned in Table 5, the projections of the size of the population within each category, and the estimates of the national rates.

Let $W_{i,k}$ = the weight associated with category i on handicap k

n_i = the projected population in category i

r_k = the national prevalence rate (per 100) for handicap k

C_k = constant of proportionality such that $C_k \cdot W_{i,k}$ = the prevalence rate (per 100) associated with category i for handicap k.

Then $r_k = \sum_i (C_k W_{i,k} \cdot n_i) / \sum_i n_i$, where the sum is taken across mutually exclusive demographic categories of age, race, or poverty level. Solving for C_k we have:

$$C_k = \frac{r_k \cdot \sum_i n_i}{\sum_i W_{i,k} \cdot n_i}$$

Therefore, if $r_{i,k}$ is the rate for category i on handicap k,

$$r_{i,k} = C_k \cdot W_{i,k}$$

As an illustration, the weights for whites and nonwhites on mental retardations were 100 and 300 respectively; the low national prevalence rate for mental retardation was 0.87 per 100 calculated to be for the population age 0 to 21, and the projected population sizes for the two populations was 67,640,000 and 12,333,000 respectively. Therefore

$$C_k = \frac{(0.87) \cdot (80,973,000)}{(100) \cdot 67,640,000 + (300)(13,333,000)} = 0.00654$$

So the calculated rate for the white population would be 0.654 per 100 and the rate for the nonwhite population would be 1.96 per 100.

The rates for each of the 20 cells defined by age, race, and poverty level were derived by breaking out the marginal rates on the nine demographic categories under certain assumptions regarding the pattern of rates across the cells. For the deaf, orthopedically impaired, other health impaired, and specific learning disabilities categories, no attempt was made to break out the rates by race or poverty level due to the lack of evidence regarding variation in prevalence across these demographic characteristics.

For the speech impairment and visual impairment categories where variation in race only or in poverty level only were assumed, the procedure consisted of assuming that the weights for race or age applied to

each individual age category. The rates for each age category could then be broken out by race or poverty level using the technique employed above.

The same procedure was used for mental retardation and serious emotional disturbance. The estimates were derived under the assumption that the ratio of the rate for nonwhites to the rate for whites was constant across poverty level.

If $r_{W,A}$ = the rate for white children above poverty;

$r_{N,A}$ = the rate for nonwhite children above poverty;

$r_{W,B}$ = the rate for white children below poverty;

$r_{N,B}$ = the race for nonwhite children below poverty;

the assumption can be expressed as:

$$\frac{r_{N,A}}{r_{W,A}} = \frac{r_{N,B}}{r_{W,B}}$$

This mathematical relationship corresponds to the assumption that the differences in the rates between whites and nonwhites remain the same, independent of poverty level. This is in contrast to an assumption that the difference in rates between white and nonwhite populations decreases with decreasing income. There was some evidence from some studies that, given certain definitions and/or evaluations of mental retardation, differences in prevalence rates do not diminish as a function of socioeconomic status and this was the basis for the assumption we adopted. It should be noted that there is no consensus regarding the issue of interaction between race and socioeconomic status on prevalence rates, just as there is little agreement regarding variation in prevalence across rate or across socioeconomic status individually.

Given the assumption, the marginal prevalence rates, and the composition of the population with respect to age, race, and poverty level, the rates for each of the 20 cells may be derived. The procedure consisted of estimating the percentage of the handicapped population overall

from each racial-poverty level defined group, applying the percentage to the number of handicapped children estimated to be in each age category, and then dividing the estimated number of handicapped children in a particular age-race-poverty level category by the total number of children in that category.

In probabilistic terms, let

H = event a child is handicapped
W = event a child is white
A = event a child is above poverty

then the assumption on the ratio of the rates can be expressed:

$$\frac{P(H|A \cap W)}{P(H|A \cap \sim W)} = \frac{P(H|\sim A \cap W)}{P(H|\sim A \cap \sim W)} \tag{1}$$

where the notation ~A connotes the complement of A and "$\cap$" connoted the intersection of two events.

Let $\alpha = P(H \cap W \cap A)$
$\beta = P(H \cap \sim W \cap A)$
$\gamma = P(H \cap W \cap \sim A)$
$\delta = P(H \cap \sim W \cap \sim A)$

Then we have the four redundant equations linking α, β, γ, and δ to the marginal probabilities

$$\alpha + \beta = P(H \cap A) \tag{2}$$

$$\gamma + \delta = P(H \cap \sim A) \tag{3}$$

$$\alpha + \gamma = P(H \cap W) \tag{4}$$

$$\beta + \delta = P(H \cap \sim W) \tag{5}$$

From equation (1) we can derive:

$$\frac{\delta}{\gamma} = C\,\frac{\beta}{\alpha} \text{ where } C = \frac{P(A \cap W)}{P(A \cap \sim W)} \cdot \frac{P(\sim A \cap \sim W)}{P(\sim A \cap W)}$$

From the above five equations (or the last equation and any three of the four first equations), α, β, γ, and δ may be estimated. By normalizing the sum to 1, the proportion of handicapped children in each race-poverty level category was estimated and used to derive the final prevalence estimates for each age category.

For the hard of hearing category, the assumption was made, based on the evidence available, that the rate for hard of hearing in the population below poverty was the same, independent of race. In the notation introduced above, this assumption is expressed as follows:

$$P(H|W \cap \sim A) = P(H|\sim W \cap \sim A)$$

From this equation, we have:

$$\frac{\gamma}{\delta} = K = \frac{P(W \cap \sim A)}{P(\sim W \cap \sim A)}$$

This equation, plus equations (2) through (5) allow for solving for α, β, γ, and δ based on the marginal rates and population sizes within the demographic categories. Again, the α, β, γ, and δ normalized to 1 may be applied within age category to derive the rates for each age-race-poverty level cell.

Generation of the Projected Population in Each Stratum for Each State

No single source of population projections was found at the level of detail necessary for our purposes. One of the reasons for this is that although national projections are available, projections for states are not because of the extreme difficulty in projecting the net results of

migration across states. The conventional component method of generating projections consists of projecting the number of births, deaths, and net migration, where deaths and net migration are age specific. Then, for any given year and any age beyond birth to 1 year, the projected population is the projected or estimated population from the prior year for the preceding age category minus the projected number of deaths plus the net migration.

Uncertainty regarding migration patterns across states, then, makes the task of projecting the population of states extremely difficult. The approach taken in this study was to use estimates and projections published by the U.S. Bureau of the Census to derive control totals and rates that were used in combination to derive the projections.

As was indicated earlier, the decision had been made to stratify the population of children age 0 through 21 by age, race, and poverty level. To generate the prevalence rates, it was necessary to project the population within each strata for each state. This was accomplished in the following manner:

- Population estimates by age and state for 1974 and 1976 were obtained from the U.S. Bureau of the Census Current Population Reports, Series P-25, No. 619 and No. 646 respectively.

  Let C_{ijm} represent these estimates where:

  i indexes the age categories 0-4, 5-13, 14-17, 18-21;

  j indexes the states;

  m indexes the year (m = 4 for 1974, m = 6 for 1976).

- Projections of the U.S. residential population for July 1, 1978 broken out by age and race were obtained as follows:

  - The composition of the armed forces overseas by age and race were estimated for 1976 by subtracting the 1976 resident population estimates from the corresponding 1976 total population estimates that appear in the U.S. Bureau of the Census, Current Population Report, Series P-25, No. 643.

  - The armed forces estimates for 1976 were then subtracted from the 1978 projections of the total population that appears in the U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 601 to derive 1978

projections of the resident U.S. population broken out by age and race.

- The projections were aggregated to derive the following control totals by age and race and by age: $A_{i,k}$ = control total for age category i and race category k, where the age and race categories corresponded to the categories defining the strata.

$$A_i = \sum_k A_{i,k} = \text{control total for age category } i$$

- Estimates of the distribution of the population within a given age category, by race and poverty level, were obtained for each state from the U.S. Bureau of the Census 1970 Census of Population, Tables 215 and 216 of Volume 1, Characteristics of the Population. From the data in the tables, estimates of the proportion of age category i within state j that are in race category k and poverty level m, were derived, where the categories correspond to those that define the strata. These estimates will be denoted by P_{ijkm}. It was assumed that the distribution for the age category 0 to 2 corresponded to that of the age category 3 to 5.
- The C_{ijm} were used to obtain initial bootstrap projections of the 1978 population by age and state:

$$C_{ij8} = C_{ij6}\left(\frac{C_{ij6}}{C_{ij4}}\right) \quad .$$

That is, the initial assumption was made that the relative rate of growth between 1976 and 1974 for a given age category and state could be represented by the rate of growth between 1974 and 1976.

- The initial projections were adjusted to conform to the age categories used in the stratification and to the 1978 control totals for these age categories:

$$D_{ij} = A_i \cdot C_{i'j8} / \sum_k C_{i'k8}$$

where $C_{oj8} = C_{ij8}$ and $i' = i - 1$.
That is, the national control totals for each age category were distributed among states in proportion to the bootstrap initial estimates.

- The initial adjusted projections by age category were distributed by race and poverty level using the distribution used in 1970:

$$N'_{ijkm} = P_{ijkm} \cdot D_{ij}$$

- The final projections were derived by distributing the control totals by age and race in proportion to the N_{ijkm}:

$$N_{ijkm} = A_{ik} \left(N'_{ijkm} / \sum_{x,y} N'_{ixky} \right)$$

In addition to deriving the population projections for each strata, a projection of the population age 5 to 17 was also generated for each state. This was done by distributing the 1978 projection of the population age 5 in proportion to N'_{2jkm} and then summing across the appropriate age, race, and poverty level categories.

Generation of the Estimates

Alternative sets of projected counts were generated by applying alternative sets of prevalence rates to the population projections. The final projected counts were derived by subtracting the 1977 PL 89-313 counts provided by BEH from the initial projected counts.

The procedure can be expressed algebraically as follows:

Let P_{ik} = the prevalence rate of handicapping disability k in stratum i (expressed as a proportion)

n_{ij} = the projected population of stratum i in state j

m_{jk} = the number of children with disability k in state j who are being served under PL 89-313.

Then:

$h_{ijk} = P_{ik} \cdot n_{ij}$ = the projected number of children from state j in stratum i with handicapping condition k.

$h_{jk} = \Sigma C_{ijk}$ = the projected number of children 3 to 21 in state j with handicap k (the sum is taken over the appropriate strata).

$C_{jk} = \text{maximum } (0, h_{jk} - m_{jk})$ = the projected count for handicapping disability k in state j.

Summary tables for the four sets of projected estimates are presented in the next section.

II THE ESTIMATES

Four sets of estimates are presented in this section. They are all projections to July 1978. The sets vary with respect to the assumptions made regarding variation in prevalence by race and poverty level. Table 6 describes each set with regard to these assumptions.

Table 6

DESCRIPTION OF ALTERNATIVE SETS OF ESTIMATES WITH RESPECT TO THEIR ASSUMPTIONS

Set	Level of National Prevalence Rate	Variation by Race and Poverty Level
A	Low	No
B	High	No
C	Low	Yes
D	High	Yes

The national prevalence estimates at the low end of the range, as shown in Table 4 were used as input to generate Sets A and C. Similarly, the national prevalence estimates at the high end of the range were used to generate Sets B and D. As indicated in the last section, estimates were generated for each of the 20 groups defined by age, race, and poverty level, for each state and handicapping disability. Presented here are the summary tables for each handicapping disability and for the totals. More detailed tables for each state are available from SRI International.

Format of the Summary Tables

The first nine tables within each set present the results for each state and for the United States by handicapping disability. The order of presentation is:

(1) Mentally Retarded
(2) Hard of Hearing
(3) Deaf

(4) Speech Impaired

(5) Visually Handicapped

(6) Seriously Emotionally Disturbed

(7) Orthopedically Impaired

(8) Other Health Impaired

(9) Specific Learning Disabled

The entries in each of these tables are described below by column heading.

- COUNT OF HDCPD.(Col. (1))--projected number of children between the ages of 3 and 21 inclusive in need of special education generated under one of the assumptions listed in Table 1 for the specified handicapping disability.
- EST. ADJ FOR PL 89-313 COUNT (Col. (2))--projected number of children in need of special education as indicated in "COUNT OF HDCPD" column minus the number of children estimated to be ineligible to be counted under PL 94-142 because they are counted by a State agency under PL 89-313 for the specified handicap.
- PREVALENCE RATE (PER 100) (Col. (3))--the estimated percentage of the projected population between the ages of 3 and 21 inclusive that would be counted under PL 94-142 based on the assumptions for the data set. This is calculated by dividing the entry in column (2) by the projected size of the population age 3 to 21 inclusive and then multiplying the result by 100.
- ADJUSTED COUNT/TOTAL POP. 5-17 (Col. (4))--the ratio of the entry in column (2) to the projected population 5-17. This ratio was calculated since the 12% limit on the total PL 94-142 count and the 2% limit on the count of children with specific learning disabilities uses the size of the population age 5 to 17 as the base.

The statistics for the entire United States are presented at the bottom of each table along with the means, standard deviations, minimum and maximum rates.

The data on the total count, presented in the last table for each set are in a different format to reflect the effects of the 12% limit on the total count and the 2% limit on the count of children with specific learning disabilities. The entries in the summary table are described below:

- EST. OF HDCPD. AGES 3-21 (Col. (1))--projected number of children between the ages of 3 and 21 inclusive in need of special education generated under the assumptions listed in Table 1.
- EST. ADJ FOR PL 89-313 COUNT (Col. (2))--projected number of handicapped children counted in column (1) minus the number of children counted in the PL 89-313 program.
- COLUMN (2) ADJ. FOR L.D. EXCESS (Col. (3))--Project count of handicapped children after subtracting PL 89-313 count and the projected number of children in the specific learning disability category over 2% of the projected number of children ages 5 to 17.
- FINAL EST. (Col. (4))--final estimate after applying 2% limit and 12% limit.
- FINAL EST./POP 5-17 (Col. (5))--final estimate from column 4 divided by the projected population between the ages of 5 and 17.
- FINAL EST./POP 3-21 (Col. (6))--final estimate from column 4 divided by the projected population between the ages of 3 and 21.

Caveat Regarding the Estimates

It is important to keep in mind the purpose for which the estimates were generated and their limitations. Examination of the estimates outside of the context in which they were generated may lead to incorrect assumptions about their accuracy.

The estimates are intended for use in the edit of the state-reported counts. As such, our intention was to provide a range of plausible values for use in detecting gross discrepancies. Our intention was not to derive a single set of extremely accurate estimates. Indeed, we feel that with the current state of special education this is not possible.

The limitations in methodology did not permit an assessment of the accuracy of the estimates. Because no one source was available, an eclectic approach was necessary in which we drew from a variety of sources that varied in their methods and the populations they covered. Also, rather than attempting to resolve the many controversies in the field of special education that can affect the size of the target population, we attempted to incorporate various points of view in alternative sets of

estimates. Nevertheless, heroic assumptions were still necessary and it was not possible to take into account all of the factors that can affect the size of the population of children in need of special education.

Consequently, it is not possible to specify the degree of accuracy of the resulting estimates. For purposes of editing the counts, the lack of an assessment of accuracy is no major drawback. A discussion of the use of the estimates in the edit of the state counts and examples of their use may be found in Volume I.

Table 7

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = MENTALLY RETARDED

STATE	COUNT OF HNDPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	12570	12222	.95	.0140
2. ALASKA	1771	1462	.79	.0119
3. ARIZONA	7698	7271	.88	.0131
4. ARKANSAS	6944	4195	.60	.0087
5. CALIFORNIA	68517	64228	.91	.0136
6. COLORADO	8441	5380	.61	.0094
7. CONNECTICUT	9750	8166	.84	.0122
8. DELAWARE	1018	951	.44	.0073
9. DISTRICT OF COL.	2206	589	.26	.0034
10. FLORIDA	24730	20728	.81	.0121
11. GEORGIA	17204	16008	.91	.0134
12. HAWAII	3715	3340	.87	.0127
13. IDAHO	2877	2780	.93	.0138
14. ILLINOIS	36429	29252	.79	.0116
15. INDIANA	17242	12994	.74	.0109
16. IOWA	9168	9450	.91	.0134
17. KANSAS	7191	6095	.82	.0124
18. KENTUCKY	11243	9532	.83	.0123
19. LOUISIANA	14143	10387	.72	.0105
20. MAINE	3516	2457	.69	.0102
21. MARYLAND	13818	11645	.84	.0124
22. MASSACHUSETTS	14032	14035	.77	.0114
23. MICHIGAN	30474	19162	.62	.0091
24. MINNESOTA	13190	12290	.91	.0134
25. MISSISSIPPI	8656	7892	.88	.0128
26. MISSOURI	14849	11535	.76	.0113
27. MONTANA	2545	2306	.86	.0131
28. NEBRASKA	4940	4664	.92	.0138
29. NEVADA	2095	1827	.86	.0127
30. NEW HAMPSHIRE	2673	1914	.71	.0103
31. NEW JERSEY	22933	22572	.99	.0142
32. NEW MEXICO	4427	4101	.90	.0133
33. NEW YORK	55729	47241	.85	.0123
34. NORTH CAROLINA	18180	13508	.72	.0108
35. NORTH DAKOTA	2170	1788	.80	.0120
36. OHIO	34217	32980	.94	.0140
37. OKLAHOMA	8833	7801	.85	.0128
38. OREGON	7217	4940	.67	.0099
39. PENNSYLVANIA	35840	30179	.83	.0122
40. RHODE ISLAND	2808	2388	.85	.0124
41. SOUTH CAROLINA	10118	8356	.80	.0119
42. SOUTH DAKOTA	2282	1815	.77	.0115
43. TENNESSEE	13400	12667	.92	.0135
44. TEXAS	42808	34533	.78	.0116
45. UTAH	4583	4077	.83	.0128
46. VERMONT	1593	0	0.00	0.0000
47. VIRGINIA	16674	15612	.91	.0138
48. WASHINGTON	11771	9568	.80	.0119
49. WEST VIRGINIA	5597	4908	.86	.0126
50. WISCONSIN	15198	12566	.82	.0120
51. WYOMING	1374	1168	.82	.0123
TOTAL U.S.	696620	586367	.83	.0122
MEAN RATE	***	***	.7882	.0117
S.D. OF RATE	***	***	.1681	.0025
RANGE: MIN . MAX	***	***	0.0000 . .9887	0.0000 . .0142

Table 8

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = HARD OF HEARING

STATE	COUNT OF HOCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL PUP. 5-17 (4)
1. ALABAMA	3362	3362	.26	.0038
2. ALASKA	480	453	.26	.0034
3. ARIZONA	2150	2150	.26	.0039
4. ARKANSAS	1434	1834	.26	.0034
5. CALIFORNIA	18315	18315	.26	.0039
6. COLORADO	2271	2271	.26	.0040
7. CONNECTICUT	2567	2567	.26	.0038
8. DELAWARE	517	503	.26	.0040
9. DISTRICT OF COL.	599	595	.26	.0040
10. FLORIDA	6608	6608	.26	.0039
11. GEORGIA	4641	4641	.26	.0039
12. HAWAII	1002	1002	.26	.0038
13. IDAHO	772	772	.26	.0038
14. ILLINOIS	9717	9717	.26	.0039
15. INDIANA	4613	4613	.26	.0039
16. IOWA	2412	2412	.26	.0038
17. KANSAS	1919	1919	.26	.0039
18. KENTUCKY	3020	3020	.26	.0039
19. LOUISIANA	3779	3779	.26	.0038
20. MAINE	935	935	.26	.0039
21. MARYLAND	3663	3663	.26	.0039
22. MASSACHUSETTS	4772	4452	.26	.0039
23. MICHIGAN	8144	8144	.26	.0039
24. MINNESOTA	3478	3478	.26	.0038
25. MISSISSIPPI	2326	2326	.26	.0038
26. MISSOURI	3950	3950	.26	.0039
27. MONTANA	673	673	.26	.0038
28. NEBRASKA	1312	1312	.26	.0039
29. NEVADA	555	555	.26	.0038
30. NEW HAMPSHIRE	709	709	.26	.0038
31. NEW JERSEY	6047	6047	.26	.0038
32. NEW MEXICO	1182	1182	.26	.0038
33. NEW YORK	14775	14775	.26	.0038
34. NORTH CAROLINA	4895	4895	.26	.0039
35. NORTH DAKOTA	576	576	.26	.0039
36. OHIO	9160	9160	.26	.0039
37. OKLAHOMA	2376	2376	.26	.0039
38. OREGON	1920	1703	.26	.0038
39. PENNSYLVANIA	9512	9512	.26	.0039
40. RHODE ISLAND	742	742	.26	.0039
41. SOUTH CAROLINA	2727	2727	.26	.0039
42. SOUTH DAKOTA	604	604	.26	.0038
43. TENNESSEE	3606	3606	.26	.0038
44. TEXAS	11560	10261	.26	.0039
45. UTAH	1274	1274	.26	.0040
46. VERMONT	430	430	.26	.0040
47. VIRGINIA	4468	4468	.26	.0039
48. WASHINGTON	3134	3134	.26	.0039
49. WEST VIRGINIA	1502	1502	.26	.0038
50. WISCONSIN	4005	4005	.26	.0038
51. WYOMING	369	369	.26	.0039
TOTAL U.S.	195959	184082	.26	.0038
MEAN RATE	***	***	.2610	.0039
S.D. OF RATE	***	***	.0020	.0000
RANGE: MIN . MAX	***	***	.2568 . .2649	.0038 . .0040

Table 9

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = DEAF

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 94-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL PUP. 5-17 (4)
1. ALABAMA	637	277	.02	.0003
2. ALASKA	118	0	0.00	0.0000
3. ARIZONA	535	57	.01	.0001
4. ARKANSAS	457	118	.02	.0002
5. CALIFORNIA	4570	3660	.05	.0008
6. COLORADO	566	347	.04	.0006
7. CONNECTICUT	642	34	.00	.0001
8. DELAWARE	127	0	0.00	0.0000
9. DISTRICT OF COL.	146	71	.03	.0005
10. FLORIDA	1655	1009	.04	.0006
11. GEORGIA	1149	427	.02	.0004
12. HAWAII	248	64	.02	.0003
13. IDAHO	133	49	.02	.0002
14. ILLINOIS	2426	477	.01	.0002
15. INDIANA	1146	439	.02	.0004
16. IOWA	908	260	.03	.0004
17. KANSAS	479	129	.02	.0003
18. KENTUCKY	750	356	.03	.0005
19. LOUISIANA	942	384	.03	.0004
20. MAINE	233	50	.01	.0002
21. MARYLAND	915	425	.03	.0004
22. MASSACHUSETTS	1193	0	0.00	0.0000
23. MICHIGAN	2026	1761	.06	.0008
24. MINNESOTA	675	676	.05	.0007
25. MISSISSIPPI	576	170	.02	.0003
26. MISSOURI	989	624	.04	.0006
27. MONTANA	169	47	.02	.0003
28. NEBRASKA	329	145	.03	.0004
29. NEVADA	138	113	.05	.0008
30. NEW HAMPSHIRE	176	14	.01	.0001
31. NEW JERSEY	1514	721	.03	.0005
32. NEW MEXICO	296	8	.00	.0000
33. NEW YORK	3688	1430	.03	.0004
34. NORTH CAROLINA	1213	68	.00	.0001
35. NORTH DAKOTA	144	28	.01	.0002
36. OHIO	2278	1973	.06	.0008
37. OKLAHOMA	591	241	.03	.0004
38. OREGON	441	0	0.00	0.0000
39. PENNSYLVANIA	2378	931	.03	.0004
40. RHODE ISLAND	185	21	.01	.0001
41. SOUTH CAROLINA	676	227	.02	.0003
42. SOUTH DAKOTA	151	30	.01	.0002
43. TENNESSEE	898	436	.03	.0005
44. TEXAS	2898	0	0.00	0.0000
45. UTAH	311	36	.01	.0001
46. VERMONT	105	5	.00	.0000
47. VIRGINIA	1111	795	.05	.0007
48. WASHINGTON	782	484	.04	.0006
49. WEST VIRGINIA	372	173	.03	.0004
50. WISCONSIN	1008	781	.05	.0007
51. WYOMING	91	58	.04	.0006
TOTAL U.S.	46358	20642	.03	.0004
MEAN RATE	***	***	.0237	.0004
S.D. OF RATE	***	***	.0165	.0008
RANGE: MIN . MAX	***	***	0.0000 . .0568	0.0000 . .0008

Table 10

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = SPEECH IMPAIRED

STATE	COUNT OF HCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	23469	23469	1.83	.0268
2. ALASKA	3344	3344	1.82	.0272
3. ARIZONA	14999	14999	1.91	.0270
4. ARKANSAS	12862	12862	1.84	.0268
5. CALIFORNIA	125780	125780	1.79	.0267
6. COLORADO	15404	15404	1.75	.0268
7. CONNECTICUT	17716	17716	1.83	.0264
8. DELAWARE	3550	3550	1.79	.0273
9. DISTRICT OF COL.	4081	4081	1.78	.0274
10. FLORIDA	45354	45354	1.78	.0265
11. GEORGIA	32506	32506	1.84	.0272
12. HAWAII	7048	7048	1.85	.0268
13. IDAHO	5396	5396	1.81	.0268
14. ILLINOIS	67316	67316	1.81	.0267
15. INDIANA	32086	32086	1.83	.0269
16. IOWA	16547	16547	1.79	.0261
17. KANSAS	13011	13011	1.75	.0266
18. KENTUCKY	20997	20997	1.82	.0270
19. LOUISIANA	26484	26484	1.84	.0268
20. MAINE	6459	6459	1.81	.0267
21. MARYLAND	25105	25105	1.80	.0265
22. MASSACHUSETTS	32432	32432	1.78	.0265
23. MICHIGAN	56434	56434	1.82	.0269
24. MINNESOTA	23819	23819	1.79	.0262
25. MISSISSIPPI	16445	16445	1.86	.0270
26. MISSOURI	26992	26992	1.77	.0265
27. MONTANA	4597	4597	1.76	.0261
28. NEBRASKA	8917	8917	1.75	.0263
29. NEVADA	3848	3848	1.80	.0266
30. NEW HAMPSHIRE	4943	4943	1.84	.0267
31. NEW JERSEY	42231	42231	1.85	.0265
32. NEW MEXICO	8171	8171	1.79	.0266
33. NEW YORK	102822	102822	1.84	.0267
34. NORTH CAROLINA	34004	34004	1.82	.0271
35. NORTH DAKOTA	3923	3923	1.75	.0264
36. OHIO	63312	63312	1.81	.0269
37. OKLAHOMA	16457	16457	1.80	.0269
38. OREGON	13278	13278	1.80	.0265
39. PENNSYLVANIA	65603	65603	1.81	.0266
40. RHODE ISLAND	5109	5109	1.81	.0266
41. SOUTH CAROLINA	18976	18976	1.82	.0271
42. SOUTH DAKOTA	4108	4108	1.75	.0261
43. TENNESSEE	25195	25195	1.83	.0269
44. TEXAS	80645	80645	1.82	.0272
45. UTAH	8999	8999	1.83	.0283
46. VERMONT	2968	2968	1.81	.0274
47. VIRGINIA	30430	30430	1.77	.0268
48. WASHINGTON	21498	21498	1.79	.0267
49. WEST VIRGINIA	10585	10585	1.85	.0271
50. WISCONSIN	27369	27369	1.78	.0262
51. WYOMING	2550	2550	1.78	.0268
TOTAL U.S.	1286174	1286174	1.81	.0268
MEAN RATE	***	***	1.8048	.0268
S.D. OF RATE	***	***	.0294	.0004
RANGE: MIN . MAX	***	***	1.7450 . 1.8582	.0261 . .0283

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Table 11

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = VISUALLY IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	546	391	.02	.0003
2. ALASKA	77	46	.02	.0004
3. ARIZONA	350	238	.03	.0004
4. ARKANSAS	298	113	.02	.0002
5. CALIFORNIA	2988	2884	.04	.0006
6. COLORADO	371	307	.03	.0005
7. CONNECTICUT	417	285	.03	.0004
8. DELAWARE	83	28	.01	.0002
9. DISTRICT OF COL.	94	0	0.00	0.0000
10. FLORIDA	1002	998	.04	.0005
11. GEORGIA	750	606	.03	.0005
12. HAWAII	161	141	.04	.0005
13. IDAHO	126	0	0.00	0.0000
14. ILLINOIS	1584	1013	.03	.0004
15. INDIANA	749	517	.03	.0004
16. IOWA	396	282	.03	.0004
17. KANSAS	314	225	.03	.0005
18. KENTUCKY	490	377	.03	.0005
19. LOUISIANA	614	416	.03	.0004
20. MAINE	152	113	.03	.0005
21. MARYLAND	597	269	.02	.0003
22. MASSACHUSETTS	779	0	0.00	0.0000
23. MICHIGAN	1322	1111	.04	.0005
24. MINNESOTA	570	515	.04	.0006
25. MISSISSIPPI	377	207	.02	.0003
26. MISSOURI	646	455	.03	.0004
27. MONTANA	110	0	0.00	0.0000
28. NEBRASKA	215	155	.03	.0005
29. NEVADA	90	80	.04	.0006
30. NEW HAMPSHIRE	114	0	0.00	0.0000
31. NEW JERSEY	985	225	.01	.0001
32. NEW MEXICO	193	96	.02	.0003
33. NEW YORK	2402	1877	.03	.0005
34. NORTH CAROLINA	792	459	.02	.0004
35. NORTH DAKOTA	94	37	.02	.0002
36. OHIO	1458	1319	.04	.0006
37. OKLAHOMA	386	256	.03	.0004
38. OREGON	314	120	.02	.0002
39. PENNSYLVANIA	1551	1117	.03	.0005
40. RHODE ISLAND	120	67	.02	.0003
41. SOUTH CAROLINA	441	278	.03	.0004
42. SOUTH DAKOTA	99	42	.02	.0003
43. TENNESSEE	585	376	.03	.0004
44. TEXAS	1875	1576	.04	.0005
45. UTAH	204	138	.03	.0004
46. VERMONT	68	68	.04	.0006
47. VIRGINIA	727	0	0.00	0.0000
48. WASHINGTON	510	382	.03	.0005
49. WEST VIRGINIA	243	134	.02	.0003
50. WISCONSIN	637	501	.03	.0005
51. WYOMING	60	48	.03	.0005
TOTAL U.S.	30258	20709	.03	.0004
MEAN RATE	***	***	.0252	.0004
S.D. OF RATE	***	***	.0115	.0002
RANGE: MIN , MAX	***	***	0.0000 , .0415	0.0000 , .0006

Table 12

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = SERIOUSLY EMOTIONALLY DISTURBED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	12703	12531	.98	.0143
2. ALASKA	1811	1723	.94	.0140
3. ARIZONA	8100	8067	.97	.0145
4. ARKANSAS	6925	6874	.98	.0143
5. CALIFORNIA	69232	68050	.97	.0145
6. COLORADO	8575	8288	.94	.0144
7. CONNECTICUT	9743	9218	.95	.0137
8. DELAWARE	1958	1711	.86	.0131
9. DISTRICT OF COL.	2264	1742	.76	.0117
10. FLORIDA	24975	24547	.98	.0144
11. GEORGIA	17513	17124	.97	.0143
12. HAWAII	3780	3763	.99	.0143
13. IDAHO	2911	2901	.97	.0144
14. ILLINOIS	36738	34095	.92	.0135
15. INDIANA	17434	17035	.97	.0143
16. IOWA	9142	8923	.95	.0141
17. KANSAS	7260	6838	.92	.0140
18. KENTUCKY	11403	11339	.99	.0146
19. LOUISIANA	14275	14060	.98	.0142
20. MAINE	3541	3223	.90	.0133
21. MARYLAND	13881	13149	.94	.0139
22. MASSACHUSETTS	18096	15413	.85	.0126
23. MICHIGAN	30799	30037	.97	.0143
24. MINNESOTA	13185	13130	.98	.0145
25. MISSISSIPPI	8775	8770	.99	.0144
26. MISSOURI	14940	14688	.97	.0144
27. MONTANA	2546	2539	.97	.0144
28. NEBRASKA	4965	4876	.96	.0144
29. NEVADA	2102	1956	.92	.0135
30. NEW HAMPSHIRE	2687	2438	.91	.0132
31. NEW JERSEY	22925	22121	.97	.0139
32. NEW MEXICO	4465	4447	.98	.0145
33. NEW YORK	55907	51384	.92	.0133
34. NORTH CAROLINA	18464	17039	.91	.0136
35. NORTH DAKOTA	2182	2158	.96	.0145
36. OHIO	34629	34309	.98	.0144
37. OKLAHOMA	8968	8932	.98	.0146
38. OREGON	7261	6959	.94	.0139
39. PENNSYLVANIA	36020	33631	.93	.0136
40. RHODE ISLAND	2815	2528	.90	.0132
41. SOUTH CAROLINA	10290	10203	.98	.0146
42. SOUTH DAKOTA	2285	2235	.95	.0142
43. TENNESSEE	13629	13048	.95	.0139
44. TEXAS	43585	42630	.96	.0144
45. UTAH	4773	4702	.96	.0148
46. VERMONT	1627	1543	.94	.0143
47. VIRGINIA	16894	16471	.96	.0145
48. WASHINGTON	11863	11728	.98	.0145
49. WEST VIRGINIA	5672	5626	.98	.0144
50. WISCONSIN	15181	14892	.97	.0143
51. WYOMING	1393	1338	.93	.0141
TOTAL U.S.	703168	676982	.95	.0141
MEAN RATE	***	***	.9481	.0141
S.D. OF RATE	***	***	.0411	.0006
RANGE: MIN . MAX	***	***	.7580 . .9910	.0117 . .0148

Table 13

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = ORTHOPEDICALLY IMPAIRED

STATE	COUNT OF MOCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL PUP. 5-17 (4)
1. ALABAMA	1047	1047	.08	.0012
2. ALASKA	146	127	.07	.0018
3. ARIZONA	568	638	.08	.0011
4. ARKANSAS	572	569	.07	.0011
5. CALIFORNIA	5713	5713	.08	.0012
6. COLORADO	707	707	.08	.0012
7. CONNECTICUT	802	755	.08	.0011
8. DELAWARE	160	0	0.00	0.0000
9. DISTRICT OF COL.	193	13	.01	.0001
10. FLORIDA	2069	2069	.08	.0012
11. GEORGIA	1437	1437	.03	.0012
12. HAWAII	309	125	.03	.0005
13. IDAHO	241	241	.08	.0012
14. ILLINOIS	3032	1467	.04	.0006
15. INDIANA	1435	1193	.07	.0011
16. IOWA	760	693	.07	.0011
17. KANSAS	600	523	.07	.0011
18. KENTUCKY	938	938	.08	.0012
19. LOUISIANA	1177	998	.07	.0010
20. MAINE	291	163	.05	.0007
21. MARYLAND	1143	1097	.08	.0012
22. MASSACHUSETTS	1492	299	.02	.0002
23. MICHIGAN	2532	2532	.08	.0012
24. MINNESOTA	1093	1093	.08	.0012
25. MISSISSIPPI	723	652	.07	.0011
26. MISSOURI	1237	1237	.08	.0012
27. MONTANA	211	211	.08	.0012
28. NEBRASKA	412	412	.08	.0012
29. NEVADA	173	173	.08	.0012
30. NEW HAMPSHIRE	221	210	.09	.0011
31. NEW JERSEY	1894	1508	.07	.0009
32. NEW MEXICO	359	353	.08	.0011
33. NEW YORK	4611	3473	.06	.0009
34. NORTH CAROLINA	1516	1337	.07	.0011
35. NORTH DAKOTA	180	180	.08	.0012
36. OHIO	2848	2848	.08	.0012
37. OKLAHOMA	739	739	.06	.0012
38. OREGON	601	434	.06	.0009
39. PENNSYLVANIA	2971	2634	.07	.0011
40. RHODE ISLAND	231	231	.06	.0012
41. SOUTH CAROLINA	845	838	.06	.0012
42. SOUTH DAKOTA	190	77	.03	.0005
43. TENNESSEE	1123	1010	.07	.0011
44. TEXAS	3584	3537	.06	.0012
45. UTAH	369	379	.08	.0012
[illegible]NT	132	55	.03	.0005
[illegible]NIA	1389	1316	.08	.0012
[illegible]. WASHINGTON	979	886	.07	.0011
49. WEST VIRGINIA	467	351	.06	.0009
50. WISCONSIN	1260	1080	.07	.0010
51. WYOMING	114	96	.07	.0010
TOTAL U.S.	57958	50634	.07	.0011
MEAN RATE	***	***	.0679	.0010
S.D. OF RATE	***	***	.0200	.0003
RANGE: MIN , MAX	***	***	0.0000 , .0820	0.0000 , .0012

Table 14

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = OTHER HEALTH IMPAIRED

STATE	COUNT OF HDCPD.	EST. ADJ. FOR PL 89-313 COUNT	PREVALENCE RATE (PER 100)	ADJUSTED COUNT / TOTAL PUP. 5-17
	(1)	(2)	(3)	(4)
1. ALABAMA	1047	1023	.08	.0012
2. ALASKA	148	0	0.00	0.0000
3. ARIZONA	664	553	.06	.0012
4. ARKANSAS	572	529	.08	.0011
5. CALIFORNIA	5713	5607	.06	.0012
6. COLORADO	707	707	.08	.0012
7. CONNECTICUT	802	740	.06	.0011
8. DELAWARE	160	155	.06	.0012
9. DISTRICT OF COL.	183	0	0.00	0.0000
10. FLORIDA	2069	2069	.08	.0012
11. GEORGIA	1437	1396	.08	.0012
12. HAWAII	309	303	.08	.0012
13. IDAHO	241	241	.08	.0012
14. ILLINOIS	3832	418	.01	.0002
15. INDIANA	1435	1208	.07	.0010
16. IOWA	760	760	.08	.0012
17. KANSAS	600	388	.05	.0006
18. KENTUCKY	936	938	.08	.0012
19. LOUISIANA	1177	1077	.07	.0011
20. MAINE	291	276	.08	.0011
21. MARYLAND	1143	1028	.07	.0011
22. MASSACHUSETTS	1492	19	.00	.0000
23. MICHIGAN	2532	2532	.08	.0012
24. MINNESOTA	1093	1093	.08	.0012
25. MISSISSIPPI	723	701	.08	.0012
26. MISSOURI	1237	1237	.08	.0012
27. MONTANA	211	211	.08	.0012
28. NEBRASKA	412	412	.08	.0012
29. NEVADA	173	0	0.00	0.0000
30. NEW HAMPSHIRE	221	0	0.00	0.0000
31. NEW JERSEY	1894	1375	.06	.0009
32. NEW MEXICO	389	389	.08	.0012
33. NEW YORK	4611	3073	.05	.0008
34. NORTH CAROLINA	1516	1394	.07	.0011
35. NORTH DAKOTA	180	180	.08	.0012
36. OHIO	2848	2848	.08	.0012
37. OKLAHOMA	739	696	.08	.0011
38. OREGON	801	586	.08	.0012
39. PENNSYLVANIA	2971	0	0.00	0.0000
40. RHODE ISLAND	231	180	.06	.0009
41. SOUTH CAROLINA	845	797	.08	.0011
42. SOUTH DAKOTA	190	190	.08	.0012
43. TENNESSEE	1123	1064	.08	.0011
44. TEXAS	3584	2986	.07	.0010
45. UTAH	389	389	.08	.0012
46. VERMONT	132	132	.08	.0012
47. VIRGINIA	1389	609	.04	.0005
48. WASHINGTON	975	938	.08	.0012
49. WEST VIRGINIA	467	444	.08	.0011
50. WISCONSIN	1200	1142	.07	.0011
51. WYOMING	114	0	0.00	0.0000
TOTAL U.S.	57958	45113	.06	.0009
MEAN RATE	***	***	.0639	.0009
S.D. OF RATE	***	***	.0282	.0004
RANGE: MIN . MAX	***	***	0.0000 . .0820	0.0000 . .0012

Table 15

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = SPECIFIC LEARNING DISABILITY

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	8872	8872	.69	.0101
2. ALASKA	1245	1245	.68	.0101
3. ARIZONA	5558	5558	.67	.0100
4. ARKANSAS	4834	4834	.69	.0101
5. CALIFORNIA	48031	48031	.69	.0102
6. COLORADO	5847	5847	.66	.0102
7. CONNECTICUT	6930	6930	.71	.0103
8. DELAWARE	1351	1351	.68	.0104
9. DISTRICT OF COL.	1551	1551	.67	.0104
10. FLORIDA	17299	17299	.68	.0101
11. GEORGIA	12178	12178	.69	.0102
12. HAWAII	2626	2626	.69	.0100
13. IDAHO	2004	2004	.67	.0100
14. ILLINOIS	25654	25654	.69	.0102
15. INDIANA	12173	12173	.69	.0102
16. IOWA	6419	6419	.69	.0101
17. KANSAS	4999	4999	.67	.0102
18. KENTUCKY	7914	7914	.69	.0102
19. LOUISIANA	9994	9994	.69	.0101
20. MAINE	2478	2478	.69	.0102
21. MARYLAND	9756	9756	.70	.0103
22. MASSACHUSETTS	12697	12697	.70	.0104
23. MICHIGAN	21554	21554	.70	.0103
24. MINNESOTA	9255	9255	.69	.0102
25. MISSISSIPPI	6123	6123	.69	.0101
26. MISSOURI	10367	10367	.68	.0102
27. MONTANA	1763	1763	.67	.0100
28. NEBRASKA	3427	3427	.67	.0101
29. NEVADA	1462	1462	.69	.0101
30. NEW HAMPSHIRE	1898	1898	.71	.0103
31. NEW JERSEY	16321	16321	.71	.0102
32. NEW MEXICO	3090	3090	.68	.0100
33. NEW YORK	39615	39615	.71	.0103
34. NORTH CAROLINA	12835	12835	.69	.0102
35. NORTH DAKOTA	1504	1504	.67	.0101
36. OHIO	24137	24137	.69	.0103
37. OKLAHOMA	6181	6181	.68	.0101
38. OREGON	5053	5053	.66	.0101
39. PENNSYLVANIA	25307	25307	.70	.0103
40. RHODE ISLAND	1987	1987	.70	.0103
41. SOUTH CAROLINA	7123	7123	.68	.0102
42. SOUTH DAKOTA	1577	1577	.67	.0100
43. TENNESSEE	9528	9528	.69	.0102
44. TEXAS	30113	30113	.66	.0102
45. UTAH	3148	3198	.65	.0100
46. VERMONT	1128	1128	.69	.0104
47. VIRGINIA	11680	11680	.68	.0103
48. WASHINGTON	8269	8269	.69	.0103
49. WEST VIRGINIA	3961	3961	.69	.0101
50. WISCONSIN	10649	10649	.69	.0102
51. WYOMING	955	955	.67	.0100
TOTAL U.S.	490470	490470	.69	.0102
MEAN RATE	***	***	.6863	.0102
S.D. OF RATE	***	***	.0127	.0001
RANGE: MIN . MAX	***	***	.6498 . .7149	.0100 . .0104

Table 16

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = A HANDICAP = SUMMARY

STATE	EST. OF HDCPD. AGES 3-21 (1)	EST. ADJ. FOR PL 94-313 COUNT (2)	COLUMN (2) ADJ. FOR L.D. EXCESS (3)	FINAL EST. (4)	FINAL EST. / POP 5-17 (5)	FINAL EST. / POP 3-21 (6)
1. ALABAMA	64453	63104	63104	63104	.0762	.0492
2. ALASKA	9142	8399	8399	8399	.0684	.0456
3. ARIZONA	40986	39631	39631	39631	.0714	.0478
4. ARKANSAS	35219	31868	31868	31868	.0664	.0455
5. CALIFORNIA	348859	342268	342268	342268	.0727	.0467
6. COLORADO	42889	39258	39258	39258	.0684	.0448
7. CONNECTICUT	49369	46411	46411	46411	.0692	.0478
8. DELAWARE	9824	8249	8249	8249	.0634	.0416
9. DISTRICT OF COL.	11309	8646	8646	8646	.0579	.0378
10. FLORIDA	125901	120591	120591	120591	.0705	.0473
11. GEORGIA	88815	86325	86325	86325	.0723	.0489
12. HAWAII	19198	18432	18432	18432	.0700	.0483
13. IDAHO	14761	14384	14384	14384	.0715	.0482
14. ILLINOIS	169928	169419	169419	169419	.0673	.0456
15. INDIANA	98315	82258	82258	82258	.0690	.0468
16. IOWA	46213	44766	44766	44766	.0707	.0483
17. KANSAS	36373	34127	34127	34127	.0697	.0459
18. KENTUCKY	57693	55411	55411	55411	.0713	.0480
19. LOUISIANA	72585	67581	67581	67581	.0684	.0470
20. MAINE	17896	16154	16154	16154	.0668	.0452
21. MARYLAND	70021	66177	66177	66177	.0699	.0474
22. MASSACHUSETTS	90485	79317	79317	79317	.0647	.0435
23. MICHIGAN	155817	143267	143267	143267	.0683	.0462
24. MINNESOTA	66564	65262	65262	65262	.0719	.0489
25. MISSISSIPPI	44726	43196	43196	43196	.0709	.0488
26. MISSOURI	75207	71085	71085	71085	.0698	.0467
27. MONTANA	12825	12347	12347	12347	.0701	.0472
28. NEBRASKA	24929	24320	24320	24320	.0718	.0478
29. NEVADA	10626	10014	10014	10014	.0693	.0469
30. NEW HAMPSHIRE	13642	12126	12126	12126	.0656	.0481
31. NEW JERSEY	116744	113121	113121	113121	.0709	.0495
32. NEW MEXICO	22562	21817	21817	21817	.0709	.0479
33. NEW YORK	284220	265690	265690	265690	.0689	.0476
34. NORTH CAROLINA	93435	85539	85539	85539	.0682	.0458
35. NORTH DAKOTA	10953	10374	10374	10374	.0697	.0463
36. OHIO	174917	172886	172886	172886	.0735	.0495
37. OKLAHOMA	45270	43679	43679	43679	.0715	.0478
38. OREGON	36728	33073	33073	33073	.0661	.0448
39. PENNSYLVANIA	182153	168914	168914	168914	.0685	.0466
40. RHODE ISLAND	14225	13251	13251	13251	.0689	.0470
41. SOUTH CAROLINA	52041	49525	49525	49525	.0707	.0475
42. SOUTH DAKOTA	11486	10678	10678	10678	.0678	.0464
43. TENNESSEE	69173	66930	66930	66930	.0714	.0487
44. TEXAS	220620	206281	206281	206281	.0696	.0466
45. UTAH	24120	23192	23192	23192	.0728	.0471
46. VERMONT	8183	6329	6329	6329	.0585	.0386
47. VIRGINIA	84766	81371	81371	81371	.0717	.0474
48. WASHINGTON	59785	56887	56887	56887	.0705	.0474
49. WEST VIRGINIA	28866	27676	27676	27676	.0709	.0484
50. WISCONSIN	76587	72985	72985	72985	.0699	.0475
51. WYOMING	7020	6582	6582	6582	.0693	.0460
TOTAL U.S.	3554923	3361173	3361173	3361173	.0699	.0473
MEAN RATE	***	***	***	***	.0692	.0467
S.D. OF RATE	***	***	***	***	.0031	.0023
RANGE: MAX - MIN	***	***	***	***	.0579 - .0735	.0376 - .0495

Table 17

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = MENTALLY RETARDED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	22372	22024	1.72	.0252
2. ALASKA	3152	2843	1.85	.0231
3. ARIZONA	14178	13488	1.63	.0243
4. ARKANSAS	12218	9549	1.36	.0199
5. CALIFORNIA	121935	117646	1.67	.0250
6. COLORADO	15028	11967	1.36	.0203
7. CONNECTICUT	17336	15752	1.62	.0235
8. DELAWARE	3614	2447	1.23	.0188
9. DISTRICT OF COL.	3328	2311	1.01	.0155
10. FLORIDA	44122	40060	1.57	.0234
11. GEORGIA	30623	29427	1.67	.0247
12. HAWAII	6614	6239	1.83	.0237
13. IDAHO	5124	5027	1.68	.0250
14. ILLINOIS	64826	57659	1.55	.0229
15. INDIANA	30682	26434	1.50	.0222
16. IOWA	16309	15601	1.68	.0247
17. KANSAS	12600	11704	1.57	.0239
18. KENTUCKY	20012	18301	1.58	.0236
19. LOUISIANA	25170	21416	1.49	.0217
20. MAINE	6256	5197	1.45	.0215
21. MARYLAND	24577	22444	1.61	.0237
22. MASSACHUSETTS	32070	28043	1.84	.0229
23. MICHIGAN	54220	42908	1.39	.0204
24. MINNESOTA	23475	22479	1.69	.0248
25. MISSISSIPPI	15411	14557	1.64	.0233
26. MISSOURI	26424	23110	1.52	.0227
27. MONTANA	4532	4293	1.64	.0244
28. NEBRASKA	8793	8517	1.67	.0252
29. NEVADA	3712	3454	1.62	.0239
30. NEW HAMPSHIRE	4796	3997	1.49	.0216
31. NEW JERSEY	40764	40423	1.77	.0253
32. NEW MEXICO	7882	7556	1.66	.0246
33. NEW YORK	99118	90630	1.62	.0235
34. NORTH CAROLINA	32357	27685	1.48	.0221
35. NORTH DAKOTA	3862	3480	1.55	.0234
36. OHIO	60887	59850	1.71	.0254
37. OKLAHOMA	15728	14696	1.61	.0241
38. OREGON	12850	10571	1.43	.0211
39. PENNSYLVANIA	63755	58094	1.60	.0236
40. RHODE ISLAND	4989	4570	1.62	.0238
41. SOUTH CAROLINA	18012	16258	1.56	.0232
42. SOUTH DAKOTA	4063	3596	1.53	.0228
43. TENNESSEE	24002	23183	1.69	.0247
44. TEXAS	76211	67938	1.54	.0229
45. UTAH	8171	7665	1.58	.0241
46. VERMONT	2836	988	.60	.0091
47. VIRGINIA	29679	26613	1.67	.0252
48. WASHINGTON	20945	18742	1.58	.0232
49. WEST VIRGINIA	9962	9265	1.62	.0237
50. WISCONSIN	27037	24405	1.59	.0234
51. WYOMING	2448	2242	1.57	.0236
TOTAL U.S.	1239844	1129136	1.59	.0235
MEAN RATE	***	***	1.5468	.0229
S.D. OF RATE	***	***	.1849	.0027
RANGE: MIN . MAX	***	***	.6033 . 1.7706	.0091 . .0254

Table 18

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = HARD OF HEARING

STATE	COUNT OF HOCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	5442	5442	.42	.0062
2. ALASKA	777	777	.42	.0063
3. ARIZONA	3478	3478	.42	.0063
4. ARKANSAS	2968	2968	.42	.0062
5. CALIFORNIA	29631	29631	.42	.0063
6. COLORADO	3673	3673	.42	.0064
7. CONNECTICUT	4158	4158	.43	.0062
8. DELAWARE	839	839	.42	.0064
9. DISTRICT OF COL.	970	970	.42	.0065
10. FLORIDA	10687	10687	.42	.0063
11. GEORGIA	7514	7514	.43	.0063
12. HAWAII	1622	1622	.42	.0062
13. IDAHO	1249	1249	.42	.0062
14. ILLINOIS	15725	15725	.42	.0062
15. INDIANA	7467	7467	.42	.0063
16. IOWA	3903	3903	.42	.0062
17. KANSAS	3104	3104	.42	.0063
18. KENTUCKY	4887	4887	.42	.0063
19. LOUISIANA	6116	6116	.43	.0062
20. MAINE	1514	1514	.42	.0063
21. MARYLAND	5928	5928	.42	.0063
22. MASSACHUSETTS	7722	7722	.42	.0063
23. MICHIGAN	13183	13183	.43	.0063
24. MINNESOTA	5629	5629	.42	.0062
25. MISSISSIPPI	3765	3765	.43	.0062
26. MISSOURI	6388	6388	.42	.0063
27. MONTANA	1088	1088	.42	.0062
28. NEBRASKA	2122	2122	.42	.0063
29. NEVADA	899	899	.42	.0062
30. NEW HAMPSHIRE	1148	1148	.43	.0062
31. NEW JERSEY	9794	9794	.43	.0061
32. NEW MEXICO	1912	1912	.42	.0062
33. NEW YORK	23927	23927	.43	.0062
34. NORTH CAROLINA	7923	7923	.42	.0063
35. NORTH DAKOTA	933	933	.42	.0063
36. OHIO	14826	14826	.42	.0063
37. OKLAHOMA	3845	3845	.42	.0063
38. OREGON	3107	3107	.42	.0062
39. PENNSYLVANIA	15396	15396	.43	.0062
40. RHODE ISLAND	1202	1202	.43	.0063
41. SOUTH CAROLINA	4413	4413	.42	.0063
42. SOUTH DAKOTA	976	976	.41	.0062
43. TENNESSEE	5838	5838	.43	.0062
44. TEXAS	18705	18705	.42	.0063
45. UTAH	2061	2061	.42	.0065
46. VERMONT	697	697	.4	.0064
47. VIRGINIA	7228	7228	.42	.0064
48. WASHINGTON	5072	5072	.42	.0063
49. WEST VIRGINIA	2433	2433	.43	.0062
50. WISCONSIN	6480	6480	.42	.0062
51. WYOMING	596	596	.42	.0063
TOTAL U.S.	300960	300960	.42	.0063
MEAN RATE	***	***	.4225	.0063
S.D. OF RATE	***	***	.0034	.0001
RANGE: MIN . MAX	***	***	.4149 . .4290	.0061 . .0065

Table 19

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = DEAF

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	2013	1493	.11	.0017
2. ALASKA	285	140	.08	.0011
3. ARIZONA	1286	808	.10	.0015
4. ARKANSAS	1100	761	.11	.0016
5. CALIFORNIA	10987	10077	.14	.0021
6. COLORADO	1363	1144	.13	.0020
7. CONNECTICUT	1543	935	.10	.0014
8. DELAWARE	307	166	.08	.0013
9. DISTRICT OF COL.	354	279	.12	.0019
10. FLORIDA	3980	3334	.13	.0020
11. GEORGIA	2763	2041	.12	.0017
12. HAWAII	506	432	.11	.0016
13. IDAHO	465	321	.11	.0016
14. ILLINOIS	5830	3881	.10	.0015
15. INDIANA	2760	2051	.12	.0017
16. IOWA	1461	1113	.12	.0018
17. KANSAS	1155	805	.11	.0016
18. KENTUCKY	1805	1411	.12	.0018
19. LOUISIANA	2264	1706	.12	.0017
20. MAINE	560	377	.11	.0016
21. MARYLAND	2198	1708	.12	.0018
22. MASSACHUSETTS	2868	1355	.07	.0011
23. MICHIGAN	4869	4604	.15	.0022
24. MINNESOTA	2102	1906	.14	.0021
25. MISSISSIPPI	1330	942	.11	.0016
26. MISSOURI	2379	2014	.13	.0020
27. MONTANA	407	285	.11	.0016
28. NEBRASKA	792	608	.12	.0018
29. NEVADA	333	308	.14	.0021
30. NEW HAMPSHIRE	425	263	.10	.0014
31. NEW JERSEY	3638	2845	.12	.0018
32. NEW MEXICO	712	424	.09	.0014
33. NEW YORK	8859	6601	.12	.0017
34. NORTH CAROLINA	2917	1772	.09	.0014
35. NORTH DAKOTA	348	232	.10	.0016
36. OHIO	5477	5172	.15	.0022
37. OKLAHOMA	1422	1072	.12	.0018
38. OREGON	1157	459	.06	.0009
39. PENNSYLVANIA	5712	4265	.12	.0017
40. RHODE ISLAND	445	281	.10	.0015
41. SOUTH CAROLINA	1626	1177	.11	.0017
42. SOUTH DAKOTA	366	245	.10	.0016
43. TENNESSEE	2159	1697	.12	.0018
44. TEXAS	6895	2728	.06	.0009
45. UTAH	751	476	.10	.0015
46. VERMONT	254	154	.09	.0014
47. VIRGINIA	2674	2348	.14	.0021
48. WASHINGTON	1882	1584	.13	.0020
49. WEST VIRGINIA	897	698	.12	.0018
50. WISCONSIN	2422	2195	.14	.0021
51. WYOMING	221	188	.13	.0020
TOTAL U.S.	111474	83881	.12	.0017
MEAN RATE	***	***	.1132	.0017
S.D. OF RATE	***	***	.0202	.0003
RANGE: MIN . MAX	***	***	.0617 . .1486	.0009 . .0022

Table 20 :

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = SPEECH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	39323	39323	3.07	.0450
2. ALASKA	5607	5607	3.05	.0457
3. ARIZONA	25125	25125	3.03	.0453
4. ARKANSAS	21540	21540	3.07	.0449
5. CALIFORNIA	210880	210880	3.08	.0448
6. COLORADO	25837	25837	2.93	.0450
7. CONNECTICUT	29705	29705	3.06	.0443
8. DELAWARE	5959	5959	3.01	.0458
9. DISTRICT OF COL.	6855	6855	2.98	.0459
10. FLORIDA	76008	76008	2.98	.0445
11. GEORGIA	54481	54481	3.09	.0457
12. HAWAII	11809	11809	3.09	.0449
13. IDAHO	9034	9034	3.03	.0449
14. ILLINOIS	112817	112817	3.04	.0448
15. INDIANA	53776	53776	3.06	.0451
16. IOWA	27724	27724	2.99	.0438
17. KANSAS	21822	21822	2.94	.0446
18. KENTUCKY	35191	35191	3.05	.0453
19. LOUISIANA	44363	44363	3.08	.0449
20. MAINE	10828	10828	3.03	.0444
21. MARYLAND	42105	42105	3.02	.0445
22. MASSACHUSETTS	54412	54412	2.99	.0444
23. MICHIGAN	94616	94616	3.05	.0451
24. MINNESOTA	39921	39921	2.99	.0440
25. MISSISSIPPI	27539	27539	3.11	.0452
26. MISSOURI	45248	45248	2.97	.0444
27. MONTANA	7702	7702	2.98	.0437
28. NEBRASKA	14948	14948	2.94	.0442
29. NEVADA	6448	6448	3.02	.0446
30. NEW HAMPSHIRE	8284	8284	3.08	.0448
31. NEW JERSEY	70757	70757	3.10	.0444
32. NEW MEXICO	13688	13688	3.00	.0445
33. NEW YORK	172342	172342	3.08	.0447
34. NORTH CAROLINA	57012	57012	3.05	.0455
35. NORTH DAKOTA	6576	6576	2.94	.0442
36. OHIO	106156	106156	3.04	.0452
37. OKLAHOMA	27580	27580	3.02	.0451
38. OREGON	22246	22246	3.01	.0445
39. PENNSYLVANIA	109981	109981	3.04	.0446
40. RHODE ISLAND	8568	8568	3.04	.0446
41. SOUTH CAROLINA	31808	31808	3.05	.0454
42. SOUTH DAKOTA	6884	6884	2.93	.0437
43. TENNESSEE	42215	42215	3.07	.0451
44. TEXAS	135145	135145	3.06	.0456
45. UTAH	15079	15079	3.06	.0474
46. VERMONT	4982	4982	3.04	.0460
47. VIRGINIA	51052	51052	2.97	.0450
48. WASHINGTON	36048	36048	3.00	.0447
49. WEST VIRGINIA	17732	17732	3.10	.0454
50. WISCONSIN	45875	45875	2.98	.0439
51. WYOMING	4273	4273	2.99	.0450
TOTAL U.S.	2155906	2155906	3.03	.0449
MEAN RATE	***	***	3.0251	.0449
S.D. OF RATE	***	***	.0487	.0007
RANGE: MIN , MAX	***	***	2.9265 , 3.1118	.0437 , .0474

Table 21

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = VISUALLY IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	1678	[illegible]	.11	.0016
2. ALASKA	237	[illegible]	.11	.0017
3. ARIZONA	1070	[illegible]	.12	.0017
4. ARKANSAS	914	731	.10	.0015
5. CALIFORNIA	9141	9037	.13	.0019
6. COLORADO	1132	1068	.12	.0019
7. CONNECTICUT	1295	1153	.12	.0017
8. DELAWARE	255	208	.10	.0015
9. DISTRICT OF COL.	294	195	.09	.0013
10. FLORIDA	3311	3137	.12	.0018
11. GEORGIA	2298	2156	.12	.0018
12. HAWAII	496	476	.12	.0018
13. IDAHO	386	240	.08	.0012
14. ILLINOIS	4853	4282	.12	.0017
15. INDIANA	2297	2065	.12	.0017
16. IOWA	1216	1102	.12	.0017
17. KANSAS	960	871	.12	.0018
18. KENTUCKY	1502	1389	.12	.0018
19. LOUISIANA	1885	1687	.12	.0017
20. MAINE	467	423	.12	.0018
21. MARYLAND	1831	1503	.11	.0016
22. MASSACHUSETTS	2387	1527	.08	.0012
23. MICHIGAN	4053	3842	.12	.0018
24. MINNESOTA	1751	1696	.13	.0019
25. MISSISSIPPI	1157	987	.11	.0016
26. MISSOURI	1979	1788	.12	.0018
27. MONTANA	339	199	.08	.0011
28. NEBRASKA	659	599	.12	.0018
29. NEVADA	278	268	.13	.0019
30. NEW HAMPSHIRE	353	212	.08	.0011
31. NEW JERSEY	3030	2270	.10	.0014
32. NEW MEXICO	592	495	.11	.0016
33. NEW YORK	7378	6853	.12	.0018
34. NORTH CAROLINA	2427	2094	.11	.0017
35. NORTH DAKOTA	289	232	.10	.0016
36. OHIO	4558	4389	.13	.0019
37. OKLAHOMA	1183	1053	.12	.0017
38. OREGON	962	788	.10	.0015
39. PENNSYLVANIA	4756	4322	.12	.0018
40. RHODE ISLAND	370	317	.11	.0016
41. SOUTH CAROLINA	1353	1190	.11	.0017
42. SOUTH DAKOTA	304	247	.11	.0016
43. TENNESSEE	1797	1588	.12	.0017
44. TEXAS	5736	5437	.12	.0018
45. UTAH	624	558	.11	.0018
46. VERMONT	211	211	.13	.0019
47. VIRGINIA	2224	1231	.07	.0011
48. WASHINGTON	1566	1438	.12	.0018
49. WEST VIRGINIA	746	637	.11	.0016
50. WISCONSIN	2016	1860	.12	.0018
51. WYOMING	184	172	.12	.0018
TOTAL U.S.	92769	82794	.12	.0017
MEAN RATE	***	***	.1120	.0017
S.D. OF RATE	***	***	.0138	.0002
RANGE: MIN . MAX	***	***	.0717 . .1288	.0011 . .0019

Table 22

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = SERIOUSLY EMOTIONALLY DISTURBED

STATE	COUNT OF MOCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	22919	22747	1.77	.0260
2. ALASKA	3266	3178	1.73	.0259
3. ARIZONA	14682	14569	1.76	.0263
4. ARKANSAS	12490	12439	1.78	.0259
5. CALIFORNIA	125018	123836	1.76	.0263
6. COLORADO	15486	15199	1.72	.0265
7. CONNECTICUT	17613	17088	1.76	.0255
8. DELAWARE	3537	3290	1.66	.0253
9. DISTRICT OF COL.	4091	3569	1.55	.0239
10. FLORIDA	45095	44667	1.75	.0261
11. GEORGIA	21585	21198	1.77	.0261
12. HAWAII	6816	6799	1.78	.0258
13. IDAHO	5249	5239	1.75	.0260
14. ILLINOIS	66319	63876	1.72	.0253
15. INDIANA	31463	31084	1.77	.0261
16. IOWA	16521	16311	1.76	.0258
17. KANSAS	13120	12698	1.71	.0259
18. KENTUCKY	20575	20511	1.78	.0264
19. LOUISIANA	25752	25537	1.78	.0259
20. MAINE	6397	6079	1.70	.0251
21. MARYLAND	25089	24357	1.75	.0257
22. MASSACHUSETTS	32724	30041	1.65	.0245
23. MICHIGAN	55608	54846	1.77	.0261
24. MINNESOTA	23829	23774	1.78	.0262
25. MISSISSIPPI	15815	15810	1.79	.0260
26. MISSOURI	26989	26737	1.76	.0262
27. MONTANA	4600	4593	1.76	.0261
28. NEBRASKA	8969	8880	1.74	.0262
29. NEVADA	3795	3649	1.71	.0253
30. NEW HAMPSHIRE	4852	4803	1.71	.0249
31. NEW JERSEY	41402	40598	1.78	.0255
32. NEW MEXICO	8059	8041	1.76	.0261
33. NEW YORK	101074	96491	1.73	.0258
34. NORTH CAROLINA	33352	31907	1.71	.0255
35. NORTH DAKOTA	3943	3919	1.75	.0263
36. OHIO	62521	62201	1.78	.0265
37. OKLAHOMA	16179	16143	1.77	.0264
38. OREGON	13106	12804	1.73	.0256
39. PENNSYLVANIA	65067	62678	1.73	.0254
40. RHODE ISLAND	5089	4802	1.70	.0250
41. SOUTH CAROLINA	18563	18476	1.77	.0264
42. SOUTH DAKOTA	4129	4079	1.73	.0259
43. TENNESSEE	24589	24008	1.75	.0256
44. TEXAS	78596	77641	1.76	.0262
45. UTAH	8587	8516	1.73	.0267
46. VERMONT	2939	2855	1.74	.0264
47. VIRGINIA	30523	30100	1.75	.0265
48. WASHINGTON	21631	21296	1.77	.0264
49. WEST VIRGINIA	10227	10181	1.78	.0261
50. WISCUNSIN	27439	27150	1.77	.0260
51. WYOMING	2514	2459	1.72	.0259
TOTAL U.S.	1269513	1243327	1.75	.0259
MEAN RATE	***	***	1.7429	.0259
S.D. OF RATE	***	***	.0493	.0005
RANGE: MIN . MAX	***	***	1.9830 . 1.7865	.0239 . .0267

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Table 23

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES - B HANDICAP - ORTHOPEDICALLY IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	7625	7625	.59	.0087
2. ALASKA	1077	1056	.57	.0086
3. ARIZONA	4859	4829	.58	.0087
4. ARKANSAS	4170	4107	.59	.0086
5. CALIFORNIA	41536	41536	.59	.0088
6. COLORADO	5136	5138	.58	.0089
7. CONNECTICUT	5862	5815	.60	.0087
8. DELAWARE	1162	849	.45	.0068
9. DISTRICT OF COL.	1338	1168	.51	.0078
10. FLORIDA	15046	15046	.59	.0086
11. GEORGIA	10449	10449	.59	.0085
12. HAWAII	2259	2075	.54	.0079
13. IDAHO	1756	1756	.59	.0087
14. ILLINOIS	22071	20506	.55	.0081
15. INDIANA	10449	10207	.58	.0086
16. IOWA	5540	5473	.59	.0086
17. KANSAS	4362	4285	.58	.0088
18. KENTUCKY	6827	6827	.59	.0086
19. LOUISIANA	6579	6400	.58	.0085
20. MAINE	2126	1998	.56	.0083
21. MARYLAND	8333	8287	.59	.0088
22. MASSACHUSETTS	10864	9671	.53	.0079
23. MICHIGAN	18436	18436	.60	.0088
24. MINNESOTA	7969	7969	.60	.0088
25. MISSISSIPPI	5266	5195	.59	.0085
26. MISSOURI	8998	8998	.59	.0088
27. MONTANA	1545	1545	.59	.0088
28. NEBRASKA	2997	2997	.59	.0089
29. NEVADA	1264	1264	.59	.0088
30. NEW HAMPSHIRE	1614	1603	.60	.0087
31. NEW JERSEY	13819	13433	.59	.0084
32. NEW MEXICO	2692	2676	.59	.0087
33. NEW YORK	33614	32476	.58	.0084
34. NORTH CAROLINA	11030	10851	.58	.0087
35. NORTH DAKOTA	1316	1316	.59	.0088
36. OHIO	20721	20721	.59	.0088
37. OKLAHOMA	5375	5375	.59	.0088
38. OREGON	4380	4213	.57	.0084
39. PENNSYLVANIA	21645	21308	.59	.0086
40. RHODE ISLAND	1689	1689	.60	.0088
41. SOUTH CAROLINA	6150	6143	.59	.0088
42. SOUTH DAKOTA	1385	1272	.54	.0081
43. TENNESSEE	8178	8065	.59	.0086
44. TEXAS	26052	26005	.59	.0088
45. UTAH	2824	2814	.57	.0088
46. VERMONT	964	387	.54	.0082
47. VIRGINIA	10102	10029	.58	.0086
48. WASHINGTON	7121	7028	.59	.0087
49. WEST VIRGINIA	3399	3283	.57	.0084
50. WISCONSIN	9179	8999	.59	.0086
51. WYOMING	838	820	.57	.0086
TOTAL U.S.	421988	414551	.58	.0086
MEAN RATE	***	***	.5777	.0086
S.D. OF RATE	***	***	.0268	.0004
RANGE: MIN . MAX	***	***	.4488 . .5991	.0068 . .0089

Table 24

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = OTHER HEALTH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	7625	7601	.59	.0087
2. ALASKA	1077	8	0.00	0.0000
3. ARIZONA	4859	4844	.58	.0087
4. ARKANSAS	4170	4127	.59	.0086
5. CALIFORNIA	41536	41430	.59	.0084
6. COLORADO	5136	5136	.58	.0089
7. CONNECTICUT	5862	5800	.60	.0086
8. DELAWARE	1162	1157	.58	.0089
9. DISTRICT OF COL.	1338	1091	.47	.0073
10. FLORIDA	15046	15046	.59	.0088
11. GEORGIA	10449	10408	.59	.0087
12. HAWAII	2259	2253	.59	.0086
13. IDAHO	1756	1756	.59	.0087
14. ILLINOIS	22071	19457	.52	.0077
15. INDIANA	10449	10222	.58	.0086
16. IOWA	5540	5540	.60	.0088
17. KANSAS	4362	4150	.56	.0085
18. KENTUCKY	6827	6827	.59	.0088
19. LOUISIANA	8579	8479	.59	.0086
20. MAINE	2126	2111	.59	.0087
21. MARYLAND	8333	8218	.59	.0087
22. MASSACHUSETTS	10864	9391	.52	.0077
23. MICHIGAN	18436	18436	.60	.0084
24. MINNESOTA	7969	7969	.60	.0088
25. MISSISSIPPI	5266	5244	.59	.0086
26. MISSOURI	8998	8998	.59	.0088
27. MONTANA	1545	1545	.59	.0088
28. NEBRASKA	2997	2997	.59	.0089
29. NEVADA	1264	897	.42	.0062
30. NEW HAMPSHIRE	1614	1324	.49	.0072
31. NEW JERSEY	13819	13300	.58	.0083
32. NEW MEXICO	2892	2892	.59	.0087
33. NEW YORK	33614	32076	.57	.0083
34. NORTH CAROLINA	11030	10908	.58	.0087
35. NORTH DAKOTA	1316	1316	.59	.0088
36. OHIO	20721	20721	.59	.0088
37. OKLAHOMA	5375	5332	.58	.0087
38. OREGON	4380	4365	.59	.0087
39. PENNSYLVANIA	21645	18181	.50	.0074
40. RHODE ISLAND	1689	1638	.58	.0085
41. SOUTH CAROLINA	6150	6102	.59	.0087
42. SOUTH DAKOTA	1385	1385	.59	.0085
43. TENNESSEE	8178	8119	.59	.0087
44. TEXAS	26052	25454	.58	.0086
45. UTAH	2824	2824	.57	.0089
46. VERMONT	964	954	.59	.0089
47. VIRGINIA	10102	9322	.54	.0082
48. WASHINGTON	7121	7050	.59	.0088
49. WEST VIRGINIA	3399	3376	.59	.0086
50. WISCONSIN	9179	9061	.59	.0087
51. WYOMING	838	711	.50	.0075
TOTAL U.S.	421988	407381	.57	.0085
MEAN RATE	***	***	.5616	.0083
S.D. OF RATE	***	***	.0874	.0013
RANGE: MIN . MAX	***	***	0.0000 . .5981	0.0000 . .0089

Table 25

PROJECT PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = SPECIFIC LEARNING DISABILITY

STATE	COUNT OF HLCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	26555	26555	2.07	.030[illegible]
2. ALASKA	3727	3727	2.03	.0303
3. ARIZONA	18630	18630	2.01	.0300
4. ARKANSAS	14467	14467	2.06	.0301
5. CALIFORNIA	163741	163741	2.04	.0305
6. COLORADO	17497	17497	1.98	.0305
7. CONNECTICUT	20751	20751	2.14	.0309
8. DELAWARE	4046	4046	2.04	.0311
9. DISTRICT OF COL.	4646	4646	2.02	.0311
10. FLORIDA	51769	51769	2.03	.0303
11. GEORGIA	36446	36446	2.05	.0305
12. HAWAII	7861	7861	2.06	.0299
13. IDAHO	5996	5996	2.01	.0298
14. ILLINOIS	76779	76779	2.07	.0305
15. INDIANA	36434	36434	2.07	.0306
16. IOWA	19213	19213	2.07	.0304
17. KANSAS	14961	14961	2.01	.0306
18. KENTUCKY	23685	23685	2.05	.0305
19. LOUISIANA	20913	20913	2.08	.0303
20. MAINE	7419	7419	2.08	.0307
21. MARYLAND	29204	29204	2.09	.0309
22. MASSACHUSETTS	38006	38006	2.09	.0310
23. MICHIGAN	64511	64511	2.08	.0307
24. MINNESOTA	27702	27702	2.08	.0305
25. MISSISSIPPI	18325	18325	2.07	.0301
26. MISSOURI	31026	31026	2.04	.0304
27. MONTANA	5278	5278	2.02	.0300
28. NEBRASKA	10258	10258	2.02	.0303
29. NEVADA	4378	4378	2.05	.0303
30. NEW HAMPSHIRE	5684	5684	2.11	.0307
31. NEW JERSEY	48862	48862	2.14	.0306
32. NEW MEXICO	9247	9247	2.03	.0301
33. NEW YORK	118587	118587	2.12	.0308
34. NORTH CAROLINA	38412	38412	2.06	.0306
35. NORTH DAKOTA	4503	4503	2.01	.0303
36. OHIO	72239	72239	2.07	.0307
37. OKLAHOMA	18497	18497	2.02	.0303
38. OREGON	15124	15124	2.05	.0302
39. PENNSYLVANIA	78750	78750	2.09	.0307
40. RHODE ISLAND	5950	5950	2.11	.0310
41. SOUTH CAROLINA	21317	21317	2.04	.0304
42. SOUTH DAKOTA	4721	4721	2.01	.0300
43. TENNESSEE	28518	28518	2.08	.0304
44. TEXAS	90107	90107	2.04	.0304
45. UTAH	9567	9567	1.94	.0300
46. VERMONT	3380	3380	2.06	.0312
47. VIRGINIA	34957	34957	2.04	.0308
48. WASHINGTON	24751	24751	2.06	.0307
49. WEST VIRGINIA	11857	11857	2.08	.0304
50. WISCONSIN	31874	31874	2.07	.0305
51. WYOMING	2859	2859	2.00	.0301
TOTAL U.S.	1467987	1467987	2.07	.0305
MEAN RATE	***	***	2.0542	.0305
S.D. OF RATE	***	***	.0383	.0003
RANGE: MIN . MAX	***	***	1.9433 . 2.1402	.0298 . .0312

Table 26

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = B HANDICAP = SUMMARY

STATE	EST. OF MDCPD. AGES 3-21 (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	COLUMN (2) ADJ. FOR L.O. EXCESS (3)	FINAL EST. (4)	FINAL EST. / POP 5-17 (5)	FINAL EST. / POP 3-21 (6)
1. ALABAMA	135549	134200	125129	104905	.1200	.0819
2. ALASKA	19205	17533	16262	14738	.1200	.0801
3. ARIZONA	86084	84729	79197	66591	.1200	.0803
4. ARKANSAS	74039	70689	65827	57631	.1200	.0823
5. CALIFORNIA	734405	727814	678188	564690	.1200	.0803
6. COLORADO	90268	88657	83838	68872	.1200	.0788
7. CONNECTICUT	104115	101157	93816	80463	.1200	.0829
8. DELAWARE	20681	18993	17549	15615	.1200	.0788
9. DISTRICT OF COL.	23814	21085	19423	17904	.1200	.0779
10. FLORIDA	265064	259754	242172	205122	.1200	.0805
11. GEORGIA	186608	184118	171539	143202	.1200	.0811
12. HAWAII	40332	39866	36967	31875	.1200	.0827
13. IDAHO	31015	30618	28644	24135	.1200	.0808
14. ILLINOIS	391291	374782	348370	302202	.1200	.0814
15. INDIANA	185777	179720	167119	142998	.1200	.0813
16. IOWA	97427	95980	89424	75942	.1200	.0820
17. KANSAS	76646	74400	69230	58751	.1200	.0790
18. KENTUCKY	121311	119029	110876	93197	.1200	.0807
19. LOUISIANA	152621	147617	137460	116541	.1200	.0824
20. MAINE	37693	36951	33368	29020	.1200	.0812
21. MARYLAND	147598	143754	133472	113536	.1200	.0814
22. MASSACHUSETTS	191917	180168	166678	147097	.1200	.0807
23. MICHIGAN	327932	315382	292836	251789	.1200	.0813
24. MINNESOTA	140347	139045	129499	108938	.1200	.0817
25. MISSISSIPPI	93934	92404	86256	73063	.1200	.0826
26. MISSOURI	158429	154307	143862	122289	.1200	.0804
27. MONTANA	27036	26528	24773	21140	.1200	.0809
28. NEBRASKA	52535	51926	48437	40618	.1200	.0798
29. NEVADA	22371	21865	20075	17330	.1200	.0812
30. NEW HAMPSHIRE	28730	27118	25133	22195	.1200	.0826
31. NEW JERSEY	245905	242282	225316	191381	.1200	.0838
32. NEW MEXICO	47676	46731	43638	36924	.1200	.0810
33. NEW YORK	598513	579983	538520	462746	.1200	.0828
34. NORTH CAROLINA	196460	188564	175225	150443	.1200	.0806
35. NORTH DAKOTA	23086	22507	20979	17851	.1200	.0797
36. OHIO	366106	366075	340858	282136	.1200	.0807
37. OKLAHOMA	95184	93593	87313	73306	.1200	.0802
38. OREGON	77312	73657	68535	60016	.1200	.0813
39. PENNSYLVANIA	383707	366975	343546	295926	.1200	.0817
40. RHODE ISLAND	29991	29017	26911	23065	.1200	.0818
41. SOUTH CAROLINA	109392	106876	99568	84854	.1200	.0806
42. SOUTH DAKOTA	24213	23405	21834	18903	.1200	.0804
43. TENNESSEE	145474	143231	133451	112433	.1200	.0819
44. TEXAS	463499	449160	418382	355797	.1200	.0804
45. UTAH	50488	49560	46361	38212	.1200	.0776
46. VERMONT	17227	15118	13902	12987	.1200	.0793
47. VIRGINIA	178561	174880	162623	136203	.1200	.0793
48. WASHINGTON	125037	123039	114420	96798	.1200	.0806
49. WEST VIRGINIA	60652	59462	55412	46845	.1200	.0820
50. WISCONSIN	161501	157899	146918	125356	.1200	.0816
51. WYOMING	14771	14320	13361	11405	.1200	.0797
TOTAL U.S.	7482229	7285923	6779061	5766876	.1200	.0811
MEAN RATE	***	***	***	***	.1200	.0809
S.D. OF RATE	***	***	***	***	.0000	.0013
RANGE: MAX - MIN	***	***	***	***	.1200 - .1200	.0776 - .0838

Table 27

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = MENTALLY RETARDED

STATE	COUNT OF MDCPU. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL PUP. 5-17 (4)
1. ALABAMA	21327	20979	1.64	.0240
2. ALASKA	3273	2966	1.61	.0241
3. ARIZONA	12096	11409	1.38	.0206
4. ARKANSAS	10506	7837	1.12	.0163
5. CALIFORNIA	113991	109702	1.56	.0233
6. COLORADO	12467	9406	1.07	.0164
7. CONNECTICUT	15406	13622	1.42	.0206
8. DELAWARE	3319	2352	1.19	.0181
9. DISTRICT OF COL.	6842	5225	2.27	.0350
10. FLORIDA	41864	37802	1.48	.0221
11. GEORGIA	30754	29558	1.67	.0248
12. HAWAII	11216	10841	2.84	.0412
13. IDAHO	4086	3983	1.34	.0198
14. ILLINOIS	62892	55035	1.50	.0221
15. INDIANA	27336	23058	1.31	.0193
16. IOWA	13154	12446	1.34	.0197
17. KANSAS	10482	9786	1.32	.0200
18. KENTUCKY	16155	14444	1.25	.0186
19. LOUISIANA	24307	20553	1.43	.0208
20. MAINE	4961	3802	1.06	.0157
21. MARYLAND	29506	23373	1.68	.0247
22. MASSACHUSETTS	27019	22992	1.26	.0188
23. MICHIGAN	51363	40031	1.29	.0191
24. MINNESOTA	19039	18013	1.35	.0198
25. MISSISSIPPI	14170	13316	1.50	.0219
26. MISSOURI	23943	20629	1.36	.0202
27. MONTANA	3763	3524	1.35	.0200
28. NEBRASKA	7242	6966	1.37	.0206
29. NEVADA	3390	3132	1.47	.0217
30. NEW HAMPSHIRE	3814	3055	1.14	.0165
31. NEW JERSEY	39017	28656	1.67	.0242
32. NEW MEXICO	6442	6116	1.34	.0199
33. NEW YORK	94463	85975	1.54	.0223
34. NORTH CAROLINA	31890	27218	1.46	.0217
35. NORTH DAKOTA	3076	2694	1.20	.0181
36. OHIO	55570	54333	1.55	.0231
37. OKLAHOMA	13779	12747	1.39	.0209
38. OREGON	10583	8304	1.13	.0166
39. PENNSYLVANIA	57415	51754	1.43	.0210
40. RHODE ISLAND	4128	3709	1.32	.0193
41. SOUTH CAROLINA	18280	16518	1.58	.0236
42. SOUTH DAKOTA	3291	2824	1.20	.0179
43. TENNESSEE	21635	20816	1.62	.0222
44. TEXAS	67655	59382	1.34	.0200
45. UTAH	6552	6053	1.23	.0190
46. VERMONT	2209	361	.22	.0033
47. VIRGINIA	29293	28227	1.64	.0249
48. WASHINGTON	17981	15778	1.31	.0196
49. WEST VIRGINIA	7669	6972	1.22	.0179
50. WISCONSIN	22730	20094	1.31	.0192
51. WYOMING	1931	1785	1.25	.0188
TOTAL U.S.	1141469	1030961	1.45	.0215
MEAN RATE	***	***	1.4008	.0208
S.D. OF RATE	***	***	.3299	.0049
RANGE: MIN . MAX	***	***	.2204 . 2.8400	.0033 . .0412

Table 28

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = HARD OF HEARING

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	3960	3960	.31	.0045
2. ALASKA	533	556	.32	.0048
3. ARIZONA	2663	2663	.32	.0048
4. ARKANSAS	2158	2158	.31	.0045
5. CALIFORNIA	23365	23365	.33	.0050
6. COLORADO	2839	2839	.33	.0051
7. CONNECTICUT	3332	3332	.34	.0050
8. DELAWARE	646	646	.33	.0051
9. DISTRICT OF COL.	735	735	.32	.0049
10. FLORIDA	8177	8177	.32	.0048
11. GEORGIA	5601	5601	.32	.0047
12. HAWAII	1285	1285	.34	.0049
13. IDAHO	987	987	.33	.0049
14. ILLINOIS	12413	12413	.33	.0049
15. INDIANA	5941	5941	.34	.0050
16. IOWA	3113	3113	.34	.0049
17. KANSAS	2456	2456	.33	.0050
18. KENTUCKY	3730	3730	.32	.0048
19. LOUISIANA	4423	4423	.31	.0045
20. MAINE	1195	1195	.33	.0049
21. MARYLAND	4687	4687	.34	.0050
22. MASSACHUSETTS	5857	5857	.34	.0050
23. MICHIGAN	10491	10491	.34	.0050
24. MINNESOTA	4486	4486	.34	.0049
25. MISSISSIPPI	2550	2550	.29	.0042
26. MISSOURI	4999	4999	.33	.0049
27. MONTANA	854	854	.33	.0048
28. NEBRASKA	1678	1678	.33	.0050
29. NEVADA	716	716	.34	.0050
30. NEW HAMPSHIRE	920	920	.34	.0050
31. NEW JERSEY	7807	7807	.34	.0049
32. NEW MEXICO	1433	1433	.31	.0047
33. NEW YORK	18850	18850	.34	.0049
34. NORTH CAROLINA	5937	5937	.32	.0047
35. NORTH DAKOTA	728	728	.33	.0049
36. OHIO	11765	11765	.34	.0050
37. OKLAHOMA	2946	2946	.32	.0048
38. OREGON	2467	2250	.33	.0049
39. PENNSYLVANIA	12198	12198	.34	.0049
40. RHODE ISLAND	954	954	.34	.0050
41. SOUTH CAROLINA	3215	3215	.31	.0046
42. SOUTH DAKOTA	754	754	.32	.0048
43. TENNESSEE	4396	4396	.32	.0047
44. TEXAS	14315	13016	.32	.0046
45. UTAH	1623	1623	.33	.0051
46. VERMONT	551	551	.34	.0051
47. VIRGINIA	5580	5580	.32	.0049
48. WASHINGTON	4043	4043	.34	.0050
49. WEST VIRGINIA	1859	1859	.33	.0048
50. WISCONSIN	5171	5171	.34	.0049
51. WYOMING	473	473	.33	.0050
TOTAL U.S.	234339	232462	.33	.0048
MEAN RATE	•••	•••	.3280	.0049
S.D. OF RATE	•••	•••	.0109	.0002
RANGE: MIN . MAX	•••	•••	.2881 . .3433	.0042 . .0051

Table 29

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = DEAF

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	837	277	.02	.0003
2. ALASKA	118	0	0.00	0.0000
3. ARIZONA	535	57	.01	.0001
4. ARKANSAS	457	118	.02	.0002
5. CALIFORNIA	4570	3660	.05	.0008
6. COLORADO	566	347	.04	.0006
7. CONNECTICUT	642	34	.00	.0001
8. DELAWARE	127	0	0.00	0.0000
9. DISTRICT OF COL.	146	71	.03	.0005
10. FLORIDA	1655	1009	.04	.0006
11. GEORGIA	1149	427	.02	.0004
12. HAWAII	248	64	.02	.0003
13. IDAHO	193	49	.02	.0002
14. ILLINOIS	2426	477	.01	.0002
15. INDIANA	1148	439	.02	.0004
16. IOWA	608	250	.03	.0004
17. KANSAS	479	129	.02	.0003
18. KENTUCKY	750	356	.03	.0005
19. LOUISIANA	942	384	.03	.0004
20. MAINE	233	50	.01	.0002
21. MARYLAND	915	425	.03	.0004
22. MASSACHUSETTS	1193	0	0.00	0.0000
23. MICHIGAN	2026	1761	.06	.0008
24. MINNESOTA	875	679	.05	.0007
25. MISSISSIPPI	578	170	.02	.0003
26. MISSOURI	989	624	.04	.0006
27. MONTANA	169	47	.02	.0003
28. NEBRASKA	329	145	.03	.0004
29. NEVADA	138	113	.05	.0008
30. NEW HAMPSHIRE	176	14	.01	.0001
31. NEW JERSEY	1514	721	.03	.0005
32. NEW MEXICO	296	8	.00	.0000
33. NEW YORK	3688	1430	.03	.0004
34. NORTH CAROLINA	1213	68	.00	.0001
35. NORTH DAKOTA	144	28	.01	.0002
36. OHIO	2278	1973	.06	.0008
37. OKLAHOMA	591	241	.03	.0004
38. OREGON	481	0	0.00	0.0000
39. PENNSYLVANIA	2378	931	.03	.0004
40. RHODE ISLAND	185	21	.01	.0001
41. SOUTH CAROLINA	676	227	.02	.0003
42. SOUTH DAKOTA	151	30	.01	.0002
43. TENNESSEE	898	436	.03	.0005
44. TEXAS	2868	0	0.00	0.0000
45. UTAH	311	36	.01	.0001
46. VERMONT	105	5	.00	.0000
47. VIRGINIA	1111	785	.05	.0007
48. WASHINGTON	782	484	.04	.0006
49. WEST VIRGINIA	372	173	.03	.0004
50. WISCONSIN	1008	781	.05	.0007
51. WYOMING	71	58	.04	.0006
TOTAL U.S.	46358	20642	.03	.0004
MEAN RATE	***	***	.0237	.0004
S.D. OF RATE	***	***	.0165	.0002
RANGE: MIN . MAX	***	***	0.0000 . .0568	0.0000 . .0008

Table 30

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = SPEECH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	26241	26241	2.05	.0300
2. ALASKA	3674	3674	2.00	.0299
3. ARIZONA	14729	14729	1.78	.0265
4. ARKANSAS	13639	13639	1.95	.0284
5. CALIFORNIA	123045	123045	1.75	.0261
6. COLORADO	14114	14114	1.60	.0246
7. CONNECTICUT	16648	16648	1.72	.0248
8. DELAWARE	3593	3593	1.81	.0276
9. DISTRICT OF COL.	6103	6103	2.66	.0409
10. FLORIDA	47326	47326	1.86	.0277
11. GEORGIA	36154	36154	2.05	.0303
12. HAWAII	5568	9568	2.51	.0364
13. IDAHO	4840	4840	1.62	.0241
14. ILLINOIS	67638	67638	1.82	.0269
15. INDIANA	30298	30298	1.72	.0254
16. IOWA	14770	14770	1.59	.0233
17. KANSAS	12096	12096	1.63	.0247
18. KENTUCKY	19794	19794	1.71	.0255
19. LOUISIANA	30144	30144	2.10	.0305
20. MAINE	5716	5716	1.60	.0236
21. MARYLAND	26177	26177	1.88	.0277
22. MASSACHUSETTS	29604	29604	1.62	.0242
23. MICHIGAN	55132	55132	1.78	.0263
24. MINNESOTA	21359	21359	1.60	.0235
25. MISSISSIPPI	19909	19909	2.25	.0327
26. MISSOURI	26432	26432	1.74	.0259
27. MONTANA	4284	4284	1.64	.0243
28. NEBRASKA	8147	8147	1.60	.0241
29. NEVADA	3693	3693	1.73	.0256
30. NEW HAMPSHIRE	4373	4373	1.63	.0236
31. NEW JERSEY	41572	41572	1.82	.0261
32. NEW MEXICO	8017	8017	1.76	.0261
33. NEW YORK	102363	102363	1.83	.0265
34. NORTH CAROLINA	37194	37194	1.99	.0297
35. NORTH DAKOTA	3585	3585	1.60	.0241
36. OHIO	60879	60879	1.74	.0259
37. OKLAHOMA	16298	16298	1.78	.0267
38. OREGON	12034	12034	1.63	.0241
39. PENNSYLVANIA	62912	62912	1.74	.0255
40. RHODE ISLAND	4651	4651	1.65	.0242
41. SOUTH CAROLINA	21965	21965	2.11	.0314
42. SOUTH DAKOTA	3868	3868	1.64	.0246
43. TENNESSEE	25907	25907	1.89	.0277
44. TEXAS	80075	80075	1.81	.0270
45. UTAH	8118	8118	1.65	.0255
46. VERMONT	2616	2616	1.60	.0242
47. VIRGINIA	31888	31888	1.86	.0281
48. WASHINGTON	19852	19852	1.65	.0246
49. WEST VIRGINIA	9671	9671	1.69	.0248
50. WISCONSIN	25038	25038	1.63	.0240
51. WYOMING	2307	2307	1.61	.0243
TOTAL U.S.	1280050	1280050	1.80	.0266
MEAN RATE	***	***	1.7973	.0267
S.D. OF RATE	***	***	.2225	.0033
RANGE: MIN , MAX	***	***	1.5945 , 2.6556	.0233 , .0409

Table 31

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = VISUALLY IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	728	693	.04	.0006
2. ALASKA	108	76	.04	.0006
3. ARIZONA	486	374	.05	.0007
4. ARKANSAS	395	210	.03	.0004
5. CALIFORNIA	4267	4163	.06	.0009
6. COLORADO	528	464	.05	.0008
7. CONNECTICUT	509	477	.05	.0007
8. DELAWARE	120	65	.03	.0005
9. DISTRICT OF COL.	132	34	.01	.0002
10. FLORIDA	1508	1334	.05	.0006
11. GEORGIA	1021	879	.05	.0007
12. HAWAII	233	213	.06	.0008
13. IDAHO	178	32	.01	.0002
14. ILLINOIS	2275	1704	.05	.0007
15. INDIANA	1082	850	.05	.0007
16. IOWA	571	457	.05	.0007
17. KANSAS	449	360	.05	.0007
18. KENTUCKY	667	554	.05	.0007
19. LOUISIANA	815	617	.04	.0006
20. MAINE	216	177	.05	.0007
21. MARYLAND	657	529	.04	.0006
22. MASSACHUSETTS	1133	273	.01	.0002
23. MICHIGAN	1909	1698	.05	.0008
24. MINNESOTA	822	767	.06	.0008
25. MISSISSIPPI	476	356	.03	.0005
26. MISSOURI	917	726	.05	.0007
27. MONTANA	157	17	.01	.0001
28. NEBRASKA	308	248	.05	.0007
29. NEVADA	130	120	.06	.0009
30. NEW HAMPSHIRE	167	26	.01	.0001
31. NEW JERSEY	1426	688	.03	.0004
32. NEW MEXICO	260	163	.04	.0005
33. NEW YORK	3432	2907	.05	.0008
34. NORTH CAROLINA	1083	750	.04	.0006
35. NORTH DAKOTA	133	76	.03	.0005
36. OHIO	2144	1975	.06	.0008
37. OKLAHOMA	536	406	.04	.0007
38. OREGON	450	256	.03	.0005
39. PENNSYLVANIA	2229	1795	.05	.0007
40. RHODE ISLAND	173	170	.04	.0006
41. SOUTH CAROLINA	593	430	.04	.0006
42. SOUTH DAKOTA	138	81	.03	.0005
43. TENNESSEE	797	588	.04	.0006
44. TEXAS	2581	2282	.05	.0008
45. UTAH	291	225	.05	.0007
46. VERMONT	99	99	.06	.0009
47. VIRGINIA	1021	26	.00	.0000
48. WASHINGTON	738	610	.05	.0008
49. WEST VIRGINIA	330	221	.04	.0006
50. WISCONSIN	951	795	.05	.0008
51. WYOMING	86	74	.05	.0008
TOTAL U.S.	42755	32780	.05	.0007
MEAN RATE	***	***	.0416	.0006
S.D. OF RATE	***	***	.0140	.0002
RANGE: MIN . MAX	***	***	.0010 . .0603	.0000 . .0009

Table 32

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = SERIOUSLY EMOTIONALLY DISTURBED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	17252	17080	1.33	.0195
2. ALASKA	2513	2425	1.32	.0197
3. ARIZONA	10539	10506	1.27	.0189
4. ARKANSAS	9033	8982	1.28	.0187
5. CALIFORNIA	92644	91262	1.30	.0194
6. COLORADO	11023	10736	1.22	.0187
7. CONNECTICUT	12967	12442	1.26	.0186
8. DELAWARE	2673	2626	1.22	.0186
9. DISTRICT OF COL.	3795	3273	1.42	.0219
10. FLORIDA	33771	33343	1.31	.0195
11. GEORGIA	24191	23802	1.35	.0199
12. HAWAII	6095	6078	1.49	.0231
13. IDAHO	3703	3693	1.24	.0184
14. ILLINOIS	49983	47340	1.28	.0188
15. INDIANA	23060	22661	1.29	.0190
16. IOWA	11742	11532	1.24	.0182
17. KANSAS	9449	9027	1.21	.0184
18. KENTUCKY	14323	14259	1.23	.0184
19. LOUISIANA	19550	19335	1.34	.0196
20. MAINE	4463	4145	1.16	.0171
21. MARYLAND	19349	18617	1.33	.0197
22. MASSACHUSETTS	23624	20941	1.15	.0171
23. MICHIGAN	41609	40847	1.32	.0195
24. MINNESOTA	16956	16901	1.27	.0186
25. MISSISSIPPI	11929	11924	1.35	.0196
26. MISSOURI	19810	19550	1.29	.0192
27. MONTANA	3289	3282	1.26	.0186
28. NEBRASKA	6368	6299	1.24	.0186
29. NEVADA	2806	2660	1.25	.0184
30. NEW HAMPSHIRE	3458	3209	1.19	.0173
31. NEW JERSEY	31156	30352	1.33	.0190
32. NEW MEXICO	5645	5627	1.23	.0183
33. NEW YORK	75487	70904	1.27	.0184
34. NORTH CAROLINA	25343	23898	1.28	.0191
35. NORTH DAKOTA	2764	2740	1.22	.0184
36. OHIO	46195	45875	1.31	.0195
37. OKLAHOMA	11711	11675	1.28	.0191
38. OREGON	9352	9050	1.23	.0181
39. PENNSYLVANIA	47877	45488	1.26	.0184
40. RHODE ISLAND	3643	3356	1.19	.0175
41. SOUTH CAROLINA	14328	14241	1.37	.0203
42. SOUTH DAKOTA	2908	2858	1.21	.0181
43. TENNESSEE	17936	17355	1.26	.0185
44. TEXAS	56922	55967	1.27	.0189
45. UTAH	6085	6014	1.22	.0189
46. VERMONT	2058	1974	1.21	.0182
47. VIRGINIA	23105	22692	1.32	.0200
48. WASHINGTON	15505	15370	1.28	.0191
49. WEST VIRGINIA	6993	6947	1.22	.0178
50. WISCONSIN	19782	19493	1.27	.0187
51. WYOMING	1788	1733	1.21	.0182
TOTAL U.S.	938370	912184	1.28	.0190
MEAN RATE	***	***	1.2737	.0189
S.D. OF RATE	***	***	.0702	.0010
RANGE: MIN . MAX	***	***	1.1488 . 1.5922	.0171 . .0231

Table 33

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = ORTHOPEDICALLY IMPAIRED

STATE	COUNT OF MDCPD.	EST. ADJ. FOR PL 93-313 COUNT	PREVALENCE RATE (PER 100)	ADJUSTED COUNT / TOTAL POP. 5-17
	(1)	(2)	(3)	(4)
1. ALABAMA	1047	1047	.08	.0012
2. ALASKA	148	127	.07	.0010
3. ARIZONA	668	838	.08	.0011
4. ARKANSAS	572	599	.07	.0011
5. CALIFORNIA	5713	5713	.08	.0012
6. COLORADO	707	707	.08	.0012
7. CONNECTICUT	802	755	.08	.0011
8. DELAWARE	160	0	0.00	0.0000
9. DISTRICT OF COL.	183	13	.01	.0001
10. FLORIDA	2069	2069	.08	.0012
11. GEORGIA	1437	1437	.08	.0012
12. HAWAII	309	125	.03	.0005
13. IDAHO	241	241	.08	.0012
14. ILLINOIS	3032	1467	.04	.0006
15. INDIANA	1435	1193	.07	.0010
16. IOWA	760	693	.07	.0011
17. KANSAS	650	523	.07	.0011
18. KENTUCKY	938	938	.08	.0012
19. LOUISIANA	1177	998	.07	.0010
20. MAINE	291	163	.05	.0007
21. MARYLAND	1143	1097	.08	.0012
22. MASSACHUSETTS	1492	299	.02	.0002
23. MICHIGAN	2532	2532	.08	.0012
24. MINNESOTA	1093	1093	.08	.0012
25. MISSISSIPPI	723	652	.07	.0011
26. MISSOURI	1237	1237	.08	.0012
27. MONTANA	211	211	.08	.0012
28. NEBRASKA	412	412	.08	.0012
29. NEVADA	173	173	.08	.0012
30. NEW HAMPSHIRE	221	210	.08	.0011
31. NEW JERSEY	1894	1508	.07	.0009
32. NEW MEXICO	369	353	.08	.0011
33. NEW YORK	4611	3473	.06	.0009
34. NORTH CAROLINA	1516	1337	.07	.0011
35. NORTH DAKOTA	180	180	.08	.0012
36. OHIO	2848	2848	.08	.0012
37. OKLAHOMA	739	739	.08	.0012
38. OREGON	601	434	.06	.0009
39. PENNSYLVANIA	2971	2634	.07	.0011
40. RHODE ISLAND	231	231	.08	.0012
41. SOUTH CAROLINA	845	838	.08	.0012
42. SOUTH DAKOTA	190	77	.03	.0005
43. TENNESSEE	1123	1010	.07	.0011
44. TEXAS	3584	3537	.08	.0012
45. UTAH	389	379	.08	.0012
46. VERMONT	132	55	.03	.0005
47. VIRGINIA	1389	1316	.08	.0012
48. WASHINGTON	979	886	.07	.0011
49. WEST VIRGINIA	467	351	.06	.0009
50. WISCONSIN	1250	1080	.07	.0010
51. WYOMING	114	96	.07	.0010
TOTAL U.S.	57958	50634	.07	.0011
MEAN RATE	***	***	.0679	.0010
S.D. OF RATE	***	***	.0200	.0003
RANGE: MIN . MAX	***	***	0.0000 . .0820	0.0000 . .0012

Table 34

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = OTHER HEALTH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	1043	1023	.09	.0012
2. ALASKA	146	0	0.00	0.0000
3. ARIZONA	668	653	.06	.0012
4. ARKANSAS	572	529	.08	.0011
5. CALIFORNIA	5713	5607	.06	.0012
6. COLORADO	707	707	.06	.0012
7. CONNECTICUT	802	740	.03	.0011
8. DELAWARE	160	155	.08	.0012
9. DISTRICT OF COL.	183	0	0.00	0.0000
10. FLORIDA	2069	2069	.08	.0012
11. GEORGIA	1437	1396	.08	.0012
12. HAWAII	309	303	.08	.0012
13. IDAHO	241	241	.08	.0012
14. ILLINOIS	3032	418	.01	.0002
15. INDIANA	1435	1208	.07	.0010
16. IOWA	760	760	.05	.0012
17. KANSAS	600	388	.05	.0008
18. KENTUCKY	938	938	.08	.0012
19. LOUISIANA	1177	1077	.07	.0011
20. MAINE	291	276	.08	.0011
21. MARYLAND	1143	1028	.07	.0011
22. MASSACHUSETTS	1492	19	.00	.0000
23. MICHIGAN	2532	2532	.06	.0012
24. MINNESOTA	1093	1093	.08	.0012
25. MISSISSIPPI	723	701	.08	.0012
26. MISSOURI	1237	1237	.08	.0012
27. MONTANA	211	211	.08	.0012
28. NEBRASKA	412	412	.08	.0012
29. NEVADA	173	0	0.00	0.0000
30. NEW HAMPSHIRE	221	0	0.00	0.0000
31. NEW JERSEY	1894	1375	.06	.0009
32. NEW MEXICO	369	369	.08	.0012
33. NEW YORK	4611	3073	.05	.0008
34. NORTH CAROLINA	1516	1396	.07	.0011
35. NORTH DAKOTA	180	180	.08	.0012
36. OHIO	2848	2848	.05	.0012
37. OKLAHOMA	739	696	.08	.0011
38. OREGON	601	586	.08	.0012
39. PENNSYLVANIA	2971	0	0.00	0.0000
40. RHODE ISLAND	231	140	.06	.0009
41. SOUTH CAROLINA	945	797	.08	.0011
42. SOUTH DAKOTA	190	190	.08	.0012
43. TENNESSEE	1123	1064	.08	.0011
44. TEXAS	3584	2986	.07	.0010
45. UTAH	389	389	.08	.0012
46. VERMONT	132	132	.08	.0012
47. VIRGINIA	1369	609	.04	.0005
48. WASHINGTON	979	938	.08	.0012
49. WEST VIRGINIA	467	444	.08	.0011
50. WISCONSIN	1260	1142	.07	.0011
51. WYOMING	114	0	0.00	0.0000
TOTAL U.S.	57658	45113	.06	.0009
MEAN RATE	***	***	.0639	.0009
S.D. OF RATE	***	***	.0282	.0004
RANGE: MIN . MAX	***	***	0.0000 . .0820	0.0000 . .0012

Table 35

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = SPECIFIC LEARNING DISABILITY

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	8872	8872	.69	.0101
2. ALASKA	1245	1245	.68	.0101
3. ARIZONA	5558	5558	.67	.0100
4. ARKANSAS	4834	4834	.69	.0101
5. CALIFORNIA	48031	48031	.68	.0102
6. COLORADO	5847	5847	.66	.0102
7. CONNECTICUT	6930	6930	.71	.0103
8. DELAWARE	1351	1351	.68	.0104
9. DISTRICT OF COL.	1551	1551	.67	.0104
10. FLORIDA	17299	17299	.68	.0101
11. GEORGIA	12178	12178	.69	.0102
12. HAWAII	2626	2626	.69	.0100
13. IDAHO	2004	2004	.67	.0100
14. ILLINOIS	25654	25654	.69	.0102
15. INDIANA	12173	12173	.69	.0102
16. IOWA	6419	6419	.69	.0101
17. KANSAS	4999	4999	.67	.0102
18. KENTUCKY	7914	7914	.69	.0102
19. LOUISIANA	9994	9994	.69	.0101
20. MAINE	2478	2478	.69	.0102
21. MARYLAND	9756	9756	.70	.0103
22. MASSACHUSETTS	12697	12697	.70	.0104
23. MICHIGAN	21554	21554	.70	.0103
24. MINNESOTA	9255	9255	.69	.0102
25. MISSISSIPPI	6123	6123	.69	.0101
26. MISSOURI	10367	10367	.68	.0102
27. MONTANA	1763	1763	.67	.0100
28. NEBRASKA	3427	3427	.67	.0101
29. NEVADA	1462	1462	.69	.0101
30. NEW HAMPSHIRE	1898	1898	.71	.0103
31. NEW JERSEY	16321	16321	.71	.0102
32. NEW MEXICO	3090	3090	.68	.0100
33. NEW YORK	39615	39615	.71	.0103
34. NORTH CAROLINA	12835	12835	.69	.0102
35. NORTH DAKOTA	1504	1504	.67	.0101
36. OHIO	24137	24137	.69	.0103
37. OKLAHOMA	6181	6181	.68	.0101
38. OREGON	5053	5053	.68	.0101
39. PENNSYLVANIA	25307	25307	.70	.0103
40. RHODE ISLAND	1987	1987	.70	.0103
41. SOUTH CAROLINA	7123	7123	.69	.0102
42. SOUTH DAKOTA	1577	1577	.67	.0100
43. TENNESSEE	9528	9528	.69	.0102
44. TEXAS	30113	30113	.69	.0102
45. UTAH	3198	3198	.65	.0100
46. VERMONT	1128	1128	.69	.0104
47. VIRGINIA	11680	11680	.68	.0103
48. WASHINGTON	8269	8269	.69	.0103
49. WEST VIRGINIA	3961	3961	.69	.0101
50. WISCONSIN	10649	10649	.69	.0102
51. WYOMING	955	955	.67	.0100
TOTAL U.S.	490470	490470	.69	.0102
MEAN RATE	***	***	.6863	.0102
S.D. OF RATE	***	***	.0127	.0001
RANGE: MIN . MAX	***	***	.6496 . .7149	.0100 . .0104

Table 36

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = C HANDICAP = SUMMARY

STATE	EST. OF HDCPD. AGES 3-21 (1)	EST. ADJ. FOR PL 99-313 COUNT (2)	COLUMN (2) ADJ. FOR L.D. EXCESS (3)	FINAL EST. (4)	FINAL EST. / POP 5-17 (5)	FINAL EST. / POP 3-21 (6)
1. ALABAMA	81311	79662	79062	79962	.0915	.0624
2. ALASKA	11420	11077	11077	11077	.0902	.0602
3. ARIZONA	47542	46587	46587	46587	.0840	.0562
4. ARKANSAS	42166	38816	38816	38816	.0806	.0554
5. CALIFORNIA	421169	414578	414578	414578	.0881	.0590
6. COLORADO	48459	46227	46227	46227	.0788	.0512
7. CONNECTICUT	58138	55180	55180	55180	.0823	.0569
8. DELAWARE	12163	10588	10588	10588	.0814	.0534
9. DISTRICT OF COL.	19670	17005	17005	17005	.1140	.0740
10. FLORIDA	155738	150428	150428	150428	.0880	.0891
11. GEORGIA	113922	111432	111432	111432	.0936	.0631
12. HAWAII	31889	31123	31123	31123	.1183	.0815
13. IDAHO	16473	16076	16076	16076	.0799	.0538
14. ILLINOIS	229255	212746	212746	212746	.0845	.0573
15. INDIANA	103878	97821	97821	97821	.0821	.0556
16. IOWA	51897	50450	50450	50450	.0797	.0545
17. KANSAS	42010	39764	39764	39764	.0812	.0535
18. KENTUCKY	65209	62927	62927	62927	.0810	.0545
19. LOUISIANA	92529	87525	87525	87525	.0886	.0609
20. MAINE	19744	18002	18002	18002	.0744	.0504
21. MARYLAND	89533	85689	85689	85689	.0906	.0614
22. MASSACHUSETTS	104431	92682	92682	92682	.0756	.0508
23. MICHIGAN	189123	176578	176578	176578	.0842	.0570
24. MINNESOTA	74948	73646	73646	73646	.0811	.0552
25. MISSISSIPPI	57181	55651	55651	55651	.0914	.0629
26. MISSOURI	89931	85809	85809	85809	.0842	.0564
27. MONTANA	14701	14193	14193	14193	.0806	.0543
28. NEBRASKA	28343	27734	27734	27734	.0819	.0545
29. NEVADA	12681	12069	12069	12069	.0830	.0566
30. NEW HAMPSHIRE	15248	13705	13705	13705	.0741	.0510
31. NEW JERSEY	142601	138978	138978	138978	.0871	.0609
32. NEW MEXICO	25921	25176	25176	25176	.0818	.0552
33. NEW YORK	347120	328590	328590	328590	.0852	.0586
34. NORTH CAROLINA	118527	110631	110631	110631	.0882	.0593
35. NORTH DAKOTA	12294	11715	11715	11715	.0788	.0523
36. OHIO	208664	206633	206633	206633	.0879	.0891
37. OKLAHOMA	53520	51929	51929	51929	.0850	.0568
38. OREGON	41622	37967	37967	37967	.0759	.0514
39. PENNSYLVANIA	216258	203019	203019	203019	.0823	.0560
40. RHODE ISLAND	16183	15209	15209	15209	.0791	.0539
41. SOUTH CAROLINA	67870	65354	65354	65354	.0933	.0627
42. SOUTH DAKOTA	13067	12259	12259	12259	.0778	.0521
43. TENNESSEE	83343	81100	81100	81100	.0866	.0590
44. TEXAS	261697	247358	247358	247358	.0834	.0559
45. UTAH	26963	26035	26035	26035	.0818	.0529
46. VERMONT	9030	6921	6921	6921	.0639	.0423
47. VIRGINIA	106456	102795	102795	102795	.0906	.0599
48. WASHINGTON	69124	66230	66230	66230	.0821	.0552
49. WEST VIRGINIA	31789	30599	30599	30599	.0784	.0536
50. WISCONSIN	87349	84247	84247	84247	.0806	.0548
51. WYOMING	7919	7481	7481	7481	.0787	.0523
TOTAL U.S.	4289727	4095296	4095296	4095296	.0852	.0576
MEAN RATE	***	***	***	***	.0843	.0568
S.D. OF RATE	***	***	***	***	.0084	.0058
RANGE: MAX . MIN	***	***	***	***	.0639 . .1183	.0423 . .0815

Table 37

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = MENTALLY RETARDED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 49-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	33496	33148	2.52	.0379
2. ALASKA	4685	4379	2.38	.0367
3. ARIZONA	17301	16614	2.03	.0299
4. ARKANSAS	14511	13842	1.94	.0288
5. CALIFORNIA	153488	149199	2.12	.0317
6. COLORADO	14710	13649	1.55	.0234
7. CONNECTICUT	20488	18904	1.95	.0282
8. DELAWARE	4564	3597	1.62	.0276
9. DISTRICT OF COL.	9605	7988	3.48	.0535
10. FLORIDA	60469	56407	2.21	.0330
11. GEORGIA	46344	45148	2.56	.0378
12. HAWAII	14534	14159	3.71	.0539
13. IDAHO	5461	5364	1.80	.0267
14. ILLINOIS	85602	78435	2.11	.0311
15. INDIANA	36471	32223	1.83	.0270
16. IOWA	17440	16732	1.91	.0264
17. KANSAS	14669	13573	1.83	.0277
18. KENTUCKY	22630	20919	1.91	.0269
19. LOUISIANA	38636	34882	2.43	.0353
20. MAINE	6481	5422	1.62	.0224
21. MARYLAND	34853	32720	2.35	.0346
22. MASSACHUSETTS	35866	31839	1.79	.0260
23. MICHIGAN	68929	57617	1.85	.0275
24. MINNESOTA	25252	24256	1.82	.0267
25. MISSISSIPPI	25042	24188	2.73	.0397
26. MISSOURI	32992	29678	1.95	.0291
27. MONTANA	5144	4905	1.88	.0278
28. NEBRASKA	9716	9440	1.85	.0279
29. NEVADA	4545	4287	2.01	.0297
30. NEW HAMPSHIRE	5020	4261	1.59	.0230
31. NEW JERSEY	52392	52031	2.28	.0326
32. NEW MEXICO	9370	9044	1.99	.0294
33. NEW YORK	128362	119874	2.15	.0311
34. NORTH CAROLINA	47742	43070	2.31	.0344
35. NORTH DAKOTA	4186	3804	1.70	.0256
36. OHIO	74813	73576	2.11	.0313
37. OKLAHOMA	19575	18543	2.03	.0304
38. OREGON	14091	11812	1.60	.0236
39. PENNSYLVANIA	77594	71933	1.99	.0292
40. RHODE ISLAND	5522	5103	1.91	.0265
41. SOUTH CAROLINA	28674	26912	2.58	.0384
42. SOUTH DAKOTA	4595	4128	1.75	.0262
43. TENNESSEE	31647	30828	2.24	.0329
44. TEXAS	95695	87422	1.98	.0295
45. UTAH	8794	8298	1.68	.0260
46. VERMONT	2927	1079	.65	.0100
47. VIRGINIA	41647	40581	2.36	.0354
48. WASHINGTON	23879	21676	1.81	.0269
49. WEST VIRGINIA	10610	9913	1.74	.0254
50. WISCONSIN	30244	27652	1.80	.0265
51. WYOMING	2663	2457	1.72	.0259
TOTAL U.S.	1588009	1477501	2.08	.0307
MEAN RATE	***	***	2.0295	.0301
S.D. OF RATE	***	***	.4634	.0068
RANGE: MIN . MAX	***	***	.6589 . 3.7092	.0100 . .0538

Table 38

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = HARD OF HEARING

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	6398	6398	.50	.0073
2. ALASKA	957	957	.52	.0076
3. ARIZONA	4305	4305	.52	.0076
4. ARKANSAS	3489	3489	.50	.0073
5. CALIFORNIA	37804	37804	.54	.0080
6. COLORADO	4696	4696	.53	.0082
7. CONNECTICUT	5358	5358	.56	.0080
8. DELAWARE	1067	1067	.54	.0082
9. DISTRICT OF COL.	1183	1183	.51	.0079
10. FLORIDA	13209	13209	.52	.0077
11. GEORGIA	9048	9049	.51	.0076
12. HAWAII	2071	2071	.54	.0079
13. IDAHO	1596	1596	.53	.0079
14. ILLINOIS	20057	20057	.54	.0080
15. INDIANA	9605	9605	.55	.0081
16. IOWA	5035	5035	.54	.0080
17. KANSAS	3969	3969	.53	.0081
18. KENTUCKY	6032	6032	.52	.0078
19. LOUISIANA	7147	7147	.50	.0072
20. MAINE	1933	1933	.54	.0080
21. MARYLAND	7571	7571	.54	.0080
22. MASSACHUSETTS	9387	9387	.55	.0081
23. MICHIGAN	16956	[illegible]	.55	.0081
24. MINNESOTA	7254	7254	.54	.0080
25. MISSISSIPPI	4121	4121	.47	.0068
26. MISSOURI	8077	8077	.53	.0079
27. MONTANA	1340	1340	.53	.0078
28. NEBRASKA	2713	2713	.53	.0080
29. NEVADA	1156	1156	.54	.0080
30. NEW HAMPSHIRE	1489	1489	.55	.0081
31. NEW JERSEY	12620	12620	.55	.0079
32. NEW MEXICO	2319	2319	.51	.0075
33. NEW YORK	30467	30467	.55	.0079
34. NORTH CAROLINA	9591	9591	.51	.0077
35. NORTH DAKOTA	1179	1179	.53	.0079
36. OHIO	19017	19017	.54	.0081
37. OKLAHOMA	4761	4761	.52	.0078
38. OREGON	3990	3990	.54	.0080
39. PENNSYLVANIA	19718	19718	.54	.0080
40. RHODE ISLAND	1544	1544	.55	.0080
41. SOUTH CAROLINA	5193	5193	.50	.0074
42. SOUTH DAKOTA	1219	1219	.52	.0077
43. TENNESSEE	7107	7107	.52	.0076
44. TEXAS	23139	23139	.52	.0078
45. UTAH	2625	2625	.53	.0082
46. VERMONT	893	893	.55	.0083
47. VIRGINIA	9011	9011	.52	.0079
48. WASHINGTON	6536	6536	.54	.0081
49. WEST VIRGINIA	3008	3008	.53	.0077
50. WISCONSIN	8360	8360	.54	.0080
51. WYOMING	765	765	.53	.0080
TOTAL U.S.	378745	378745	.53	.0079
MEAN RATE	***	***	.5301	.0079
S.D. OF RATE	***	***	.0177	.0003
RANGE: MIN , MAX	***	***	.4657 , .5551	.0068 , .0083

Table 39

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = DEAF

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR ML 83-31 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	2013	1453	.11	.0017
2. ALASKA	285	140	.06	.0011
3. ARIZONA	1286	808	.10	.0015
4. ARKANSAS	1130	741	.11	.0016
5. CALIFORNIA	10987	10077	.16	.0021
6. COLORADO	1361	1144	.13	.0020
7. CONNECTICUT	1543	935	.10	.0014
8. DELAWARE	307	166	.08	.0013
9. DISTRICT OF COL.	354	279	.12	.0019
10. FLORIDA	3960	3314	.13	.0020
11. GEORGIA	2763	2041	.12	.0017
12. HAWAII	596	432	.11	.0016
13. IDAHO	465	321	.11	.0016
14. ILLINOIS	5830	3891	.10	.0015
15. INDIANA	2768	2051	.12	.0017
16. IOWA	1461	1113	.12	.0018
17. KANSAS	1155	805	.11	.0016
18. KENTUCKY	1805	1411	.12	.0019
19. LOUISIANA	2264	1706	.12	.0017
20. MAINE	560	377	.11	.0016
21. MARYLAND	2138	1708	.12	.0019
22. MASSACHUSETTS	2864	1355	.07	.0011
23. MICHIGAN	4869	4604	.15	.0022
24. MINNESOTA	2102	1906	.14	.0021
25. MISSISSIPPI	1390	982	.11	.0016
26. MISSOURI	2379	2014	.13	.0020
27. MONTANA	407	285	.11	.0016
28. NEBRASKA	792	608	.12	.0018
29. NEVADA	333	309	.14	.0021
30. NEW HAMPSHIRE	425	263	.10	.0014
31. NEW JERSEY	3638	2845	.12	.0018
32. NEW MEXICO	712	424	.09	.0014
33. NEW YORK	8859	6601	.12	.0017
34. NORTH CAROLINA	2917	1772	.09	.0014
35. NORTH DAKOTA	348	232	.10	.0016
36. OHIO	5477	5172	.15	.0022
37. OKLAHOMA	1422	1072	.12	.0018
38. OREGON	1157	459	.06	.0009
39. PENNSYLVANIA	5712	4255	.12	.0017
40. RHODE ISLAND	445	281	.10	.0015
41. SOUTH CAROLINA	1626	1177	.11	.0017
42. SOUTH DAKOTA	366	245	.10	.0016
43. TENNESSEE	2159	1697	.12	.0018
44. TEXAS	6895	2729	.06	.0009
45. UTAH	751	476	.10	.0015
46. VERMONT	254	154	.09	.0014
47. VIRGINIA	2674	2348	.14	.0021
48. WASHINGTON	1982	1584	.13	.0020
49. WEST VIRGINIA	837	698	.14	.0018
50. WISCONSIN	2422	2195	.14	.0021
51. WYOMING	221	188	.13	.0020
TOTAL U.S.	111474	83831	.12	.0017
MEAN RATE	***	***	.1132	.0017
S.D. OF RATE	***	***	.0202	.0003
RANGE: MIN , MAX	***	***	.0617 , .1486	.0009 , .0022

Table 40

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = SPEECH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	43826	43826	3.42	.0501
2. ALASKA	6143	6143	3.34	.0500
3. ARIZONA	24627	24627	2.97	.0444
4. ARKANSAS	22778	22778	3.25	.0476
5. CALIFORNIA	205857	205857	2.93	.0437
6. COLORADO	23639	23639	2.68	.0412
7. CONNECTICUT	27853	27853	2.87	.0415
8. DELAWARE	6014	6014	3.01	.0462
9. DISTRICT OF COL.	10199	10199	4.44	.0684
10. FLORIDA	79106	79106	3.11	.0463
11. GEORGIA	60411	60411	3.42	.0506
12. HAWAII	15962	15962	4.18	.0607
13. IDAHO	8094	8094	2.71	.0402
14. ILLINOIS	113089	113089	3.05	.0449
15. INDIANA	50680	50680	2.88	.0425
16. IOWA	24712	24712	2.67	.0390
17. KANSAS	20255	20255	2.72	.0414
18. KENTUCKY	33114	33114	2.87	.0426
19. LOUISIANA	50330	50330	3.50	.0509
20. MAINE	9570	9570	2.68	.0396
21. MARYLAND	43780	43780	3.14	.0463
22. MASSACHUSETTS	49572	49572	2.72	.0404
23. MICHIGAN	92216	92216	2.98	.0439
24. MINNESOTA	35742	35742	2.68	.0394
25. MISSISSIPPI	33221	33221	3.75	.0546
26. MISSOURI	44211	44211	2.91	.0434
27. MONTANA	7167	7167	2.74	.0407
28. NEBRASKA	13636	13636	2.68	.0403
29. NEVADA	6176	6176	2.89	.0428
30. NEW HAMPSHIRE	7318	7318	2.72	.0396
31. NEW JERSEY	69493	69493	3.04	.0436
32. NEW MEXICO	13405	13405	2.94	.0436
33. NEW YORK	171162	171162	3.06	.0444
34. NORTH CAROLINA	62165	62165	3.33	.0496
35. NORTH DAKOTA	6001	6001	2.68	.0403
36. OHIO	101851	101851	2.91	.0433
37. OKLAHOMA	27256	27256	2.98	.0446
38. OREGON	20133	20133	2.73	.0403
39. PENNSYLVANIA	105240	105240	2.91	.0427
40. RHODE ISLAND	7787	7787	2.76	.0405
41. SOUTH CAROLINA	36688	36688	3.52	.0524
42. SOUTH DAKOTA	6472	6472	2.75	.0411
43. TENNESSEE	43298	43298	3.15	.0462
44. TEXAS	133901	133901	3.03	.0452
45. UTAH	13587	13587	2.76	.0427
46. VERMONT	4384	4384	2.68	.0405
47. VIRGINIA	53339	53339	3.11	.0470
48. WASHINGTON	33229	33229	2.77	.0412
49. WEST VIRGINIA	16174	16174	2.83	.0414
50. WISCONSIN	41894	41894	2.73	.0401
51. WYOMING	3860	3860	2.70	.0406
TOTAL U.S.	2140617	2140617	3.01	.0445
MEAN RATE	***	***	3.0057	.0446
S.D. OF RATE	***	***	.3697	.0055
RANGE: MIN . MAX	***	***	2.6677 . 4.4380	.0390 . .0684

Table A1

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = VISUALLY IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	2218	1973	.15	.0023
2. ALASKA	331	299	.16	.0024
3. ARIZONA	1478	1366	.16	.0025
4. ARKANSAS	1203	1018	.15	.0021
5. CALIFORNIA	13001	12697	.18	.0027
6. COLORADO	1605	1541	.17	.0027
7. CONNECTICUT	1868	1736	.18	.0026
8. DELAWARE	365	310	.16	.0024
9. DISTRICT OF COL.	404	306	.13	.0021
10. FLORIDA	4591	4417	.17	.0026
11. GEORGIA	3109	2947	.17	.0025
12. HAWAII	710	690	.18	.0026
13. IDAHO	546	400	.13	.0020
14. ILLINOIS	6918	6367	.17	.0025
15. INDIANA	3301	3069	.17	.0026
16. IOWA	1747	1633	.18	.0026
17. KANSAS	1369	1280	.17	.0026
18. KENTUCKY	2033	1920	.17	.0025
19. LOUISIANA	2446	2284	.16	.0023
20. MAINE	642	623	.17	.0026
21. MARYLAND	2619	2291	.15	.0024
22. MASSACHUSETTS	3461	2601	.14	.0021
23. MICHIGAN	5826	5615	.19	.0027
24. MINNESOTA	2515	2466	.13	.0027
25. MISSISSIPPI	1451	1281	.14	.0021
26. MISSOURI	2796	2603	.17	.0026
27. MONTANA	681	341	.13	.0019
28. NEBRASKA	940	890	.17	.0025
29. NEVADA	399	389	.18	.0027
30. NEW HAMPSHIRE	511	370	.14	.0020
31. NEW JERSEY	4370	3610	.14	.0023
32. NEW MEXICO	792	695	.15	.0023
33. NEW YORK	10494	9969	.14	.0026
34. NORTH CAROLINA	3297	2964	.15	.0024
35. NORTH DAKOTA	406	349	.15	.0023
36. OHIO	6539	6370	.18	.0027
37. OKLAHOMA	1632	1502	.16	.0025
38. OREGON	1373	1179	.15	.0024
39. PENNSYLVANIA	6811	6377	.18	.0026
40. RHODE ISLAND	532	479	.17	.0025
41. SOUTH CAROLINA	1903	1640	.16	.0023
42. SOUTH DAKOTA	423	366	.16	.0023
43. TENNESSEE	2432	2223	.16	.0024
44. TEXAS	7852	7553	.17	.0025
45. UTAH	881	815	.17	.0026
46. VERMONT	302	302	.19	.0028
47. VIRGINIA	3105	2112	.12	.0019
48. WASHINGTON	2252	2124	.18	.0026
49. WEST VIRGINIA	1010	901	.16	.0023
50. WISCONSIN	2908	2752	.18	.0026
51. WYOMING	262	250	.17	.0026
TOTAL U.S.	130438	120453	.17	.0025
MEAN RATE	***	***	.1643	.0024
S.D. OF RATE	***	***	.0151	.0002
RANGE: MIN . MAX	***	***	.1230 . .1845	.0019 . .0028

Table 42

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = SERIOUSLY EMOTIONALLY DISTURBED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1. ALABAMA	25662	25490	1.99	.0292
2. ALASKA	3721	3633	1.37	.0296
3. ARIZONA	15945	15912	1.92	.0287
4. ARKANSAS	13554	13603	1.94	.0283
5. CALIFORNIA	137449	136267	1.94	.0290
6. COLORADO	16379	16092	1.82	.0280
7. CONNECTICUT	19581	19056	1.95	.0284
8. DELAWARE	3885	3838	1.84	.0280
9. DISTRICT OF COL.	5130	4608	2.01	.0309
10. FLORIDA	50067	49639	1.95	.0290
11. GEORGIA	35680	35291	2.00	.0296
12. HAWAII	8769	8751	2.29	.0333
13. IDAHO	5695	5685	1.90	.0283
14. ILLINOIS	74753	72110	1.94	.0286
15. INDIANA	34836	34417	1.96	.0289
16. IOWA	17922	17712	1.91	.0280
17. KANSAS	14049	13627	1.83	.0278
18. KENTUCKY	21499	21435	1.86	.0276
19. LOUISIANA	29156	28941	2.01	.0293
20. MAINE	6772	6454	1.81	.0267
21. MARYLAND	28375	27643	1.98	.0292
22. MASSACHUSETTS	35314	32631	1.79	.0266
23. MICHIGAN	62089	61327	1.98	.0292
24. MINNESOTA	25798	25743	1.93	.0284
25. MISSISSIPPI	17929	17923	2.03	.0294
26. MISSOURI	29470	29218	1.92	.0287
27. MONTANA	4942	4985	1.91	.0293
28. NEBRASKA	9605	9516	1.87	.0281
29. NEVADA	4230	4084	1.91	.0283
30. NEW HAMPSHIRE	5238	5049	1.88	.0273
31. NEW JERSEY	47144	46340	2.03	.0291
32. NEW MEXICO	8527	8509	1.87	.0277
33. NEW YORK	113414	108831	1.95	.0282
34. NORTH CAROLINA	37197	35752	1.92	.0285
35. NORTH DAKOTA	4150	4136	1.85	.0278
36. OHIO	69340	68720	1.97	.0292
37. OKLAHOMA	17528	17492	1.91	.0286
38. OREGON	14266	13964	1.89	.0279
39. PENNSYLVANIA	71847	69498	1.92	.0282
40. RHODE ISLAND	5433	5206	1.85	.0271
41. SOUTH CAROLINA	20993	20906	2.00	.0298
42. SOUTH DAKOTA	4394	4344	1.85	.0276
43. TENNESSEE	26894	26313	1.92	.0281
44. TEXAS	85030	84075	1.90	.0284
45. UTAH	9245	9174	1.86	.0288
46. VERMONT	3063	2999	1.83	.0277
47. VIRGINIA	33537	33114	1.93	.0292
48. WASHINGTON	23276	23141	1.93	.0287
49. WEST VIRGINIA	10715	10669	1.87	.0273
50. WISCONSIN	29968	29679	1.93	.0284
51. WYOMING	2708	2653	1.85	.0279
TOTAL U.S.	1402201	1376015	1.94	.0286
MEAN RATE	***	***	1.9229	.0285
S.D. OF RATE	***	***	.0787	.0010
RANGE: MIN . MAX	***	***	1.7901 . 2.2925	.0266 . .0333

Table 43

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = ORTHOPEDICALLY IMPAIRED

	STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1.	ALABAMA	7625	7625	.53	.0057
2.	ALASKA	1077	1056	.57	.0086
3.	ARIZONA	4459	4829	.58	.0087
4.	ARKANSAS	4170	4107	.59	.0090
5.	CALIFORNIA	41536	41536	.59	.0088
6.	COLORADO	5136	5136	.58	.0089
7.	CONNECTICUT	5362	5815	.60	.0087
8.	DELAWARE	1162	849	.45	.0068
9.	DISTRICT OF COL.	1334	1158	.51	.0076
10.	FLORIDA	14946	15046	.59	.0088
11.	GEORGIA	10449	10449	.59	.0088
12.	HAWAII	2259	2075	.54	.0079
13.	IDAHO	1756	1756	.59	.0087
14.	ILLINOIS	22071	20506	.55	.0081
15.	INDIANA	10449	10207	.58	.0086
16.	IOWA	5540	5473	.59	.0086
17.	KANSAS	4362	4285	.58	.0088
18.	KENTUCKY	6827	6827	.59	.0088
19.	LOUISIANA	8579	8400	.58	.0085
20.	MAINE	2126	1998	.56	.0083
21.	MARYLAND	8333	8297	.59	.0088
22.	MASSACHUSETTS	10964	9671	.53	.0079
23.	MICHIGAN	18436	18436	.60	.0088
24.	MINNESOTA	7959	7959	.60	.0088
25.	MISSISSIPPI	5266	5175	.59	.0085
26.	MISSOURI	9998	9998	.59	.0086
27.	MONTANA	1545	1545	.59	.0088
28.	NEBRASKA	2997	2997	.59	.0089
29.	NEVADA	1264	1264	.59	.0088
30.	NEW HAMPSHIRE	1614	1603	.60	.0087
31.	NEW JERSEY	13819	13433	.59	.0084
32.	NEW MEXICO	2692	2676	.59	.0087
33.	NEW YORK	33614	32476	.58	.0084
34.	NORTH CAROLINA	11030	10851	.58	.0087
35.	NORTH DAKOTA	1316	1316	.59	.0088
36.	OHIO	20721	20721	.59	.0088
37.	OKLAHOMA	5375	5375	.59	.0088
38.	OREGON	4340	4213	.57	.0084
39.	PENNSYLVANIA	21645	21308	.59	.0086
40.	RHODE ISLAND	1689	1689	.60	.0088
41.	SOUTH CAROLINA	6150	6143	.59	.0088
42.	SOUTH DAKOTA	1385	1272	.54	.0081
43.	TENNESSEE	8178	8065	.59	.0086
44.	TEXAS	26052	26005	.59	.0088
45.	UTAH	2824	2814	.57	.0088
46.	VERMONT	964	887	.54	.0092
47.	VIRGINIA	10102	10029	.58	.0088
48.	WASHINGTON	7121	7028	.59	.0087
49.	WEST VIRGINIA	3399	3293	.57	.0084
50.	WISCONSIN	9179	8999	.59	.0086
51.	WYOMING	838	820	.57	.0086
	TOTAL U.S.	421988	414551	.54	.0086
	MEAN RATE	***	***	.3777	.0086
	S.D. OF RATE	***	***	.0250	.0004
	RANGE: MIN , MAX	***	***	.4486 , .5991	.0068 , .0089

Table 44

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = OTHER HEALTH IMPAIRED

STATE	COUNT OF HDCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL PUP. 5-17 (4)
1. ALABAMA	7625	7601	.59	.0087
2. ALASKA	1077	0	0.00	0.0000
3. ARIZONA	4959	4944	.58	.0087
4. ARKANSAS	4170	4127	.53	.0086
5. CALIFORNIA	41536	41430	.59	.0088
6. COLORADO	5136	5136	.5.	.0089
7. CONNECTICUT	5962	5900	.60	.0096
8. DELAWARE	1162	1157	.58	.0089
9. DISTRICT OF COL.	1338	1091	.47	.0073
10. FLORIDA	15046	15046	.53	.0088
11. GEORGIA	10449	10408	.59	.0087
12. HAWAII	2259	2253	.59	.0086
13. IDAHO	1756	1756	.53	.0087
14. ILLINOIS	22071	19457	.52	.0077
15. INDIANA	10449	10222	.58	.0086
16. IOWA	5540	5540	.60	.0088
17. KANSAS	4362	4150	.56	.0085
18. KENTUCKY	6827	6827	.53	.0088
19. LOUISIANA	8579	8479	.59	.0086
20. MAINE	2126	2111	.59	.0087
21. MARYLAND	8353	8218	.59	.0087
22. MASSACHUSETTS	10864	9391	.52	.0077
23. MICHIGAN	18476	18436	.60	.0088
24. MINNESOTA	7969	7969	.60	.0088
25. MISSISSIPPI	5266	5244	.59	.0086
26. MISSOURI	8998	8998	.54	.0088
27. MONTANA	1545	1545	.59	.0088
28. NEBRASKA	2997	2997	.59	.0089
29. NEVADA	1264	897	.42	.0062
30. NEW HAMPSHIRE	1614	1324	.43	.0072
31. NEW JERSEY	13819	13300	.58	.0083
32. NEW MEXICO	2692	2692	.53	.0087
33. NEW YORK	33614	32076	.57	.0083
34. NORTH CAROLINA	11030	10909	.58	.0087
35. NORTH DAKOTA	1316	1316	.59	.0088
36. OHIO	20721	20721	.59	.0088
37. OKLAHOMA	5375	5332	.58	.0087
38. OREGON	4380	4365	.59	.0087
39. PENNSYLVANIA	21645	18181	.50	.0074
40. RHODE ISLAND	1689	1638	.58	.0085
41. SOUTH CAROLINA	6150	6102	.59	.0087
42. SOUTH DAKOTA	1385	1385	.59	.0088
43. TENNESSEE	8178	8119	.59	.0087
44. TEXAS	26052	25454	.58	.0086
45. UTAH	2824	2824	.57	.0089
46. VERMONT	964	964	.59	.0089
47. VIRGINIA	10102	9322	.54	.0092
48. WASHINGTON	7121	7080	.59	.0088
49. WEST VIRGINIA	3399	3376	.59	.0086
50. WISCONSIN	9179	9061	.59	.0087
51. WYOMING	838	711	.50	.0075
TOTAL U.S.	421998	407341	.57	.0095
MEAN RATE	***	***	.5616	.0083
S.D. OF RATE	***	***	.0874	.0013
RANGE: MIN . MAX	***	***	0.0000 . .5981	0.0000 . .0089

Table 45

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = SPECIFIC LEARNING DISABILITY

	STATE	COUNT OF HCPD. (1)	EST. ADJ. FOR PL 89-313 COUNT (2)	PREVALENCE RATE (PER 100) (3)	ADJUSTED COUNT / TOTAL POP. 5-17 (4)
1.	ALABAMA	26555	26555	2.07	.0304
2.	ALASKA	3727	3727	2.03	.0303
3.	ARIZONA	16630	16630	2.01	.0300
4.	ARKANSAS	14467	14467	2.06	.0301
5.	CALIFORNIA	143741	143741	2.04	.0305
6.	COLORADO	17497	17497	1.99	.0305
7.	CONNECTICUT	20751	20751	2.14	.0309
8.	DELAWARE	4046	4046	2.04	.0311
9.	DISTRICT OF COL.	4646	4646	2.02	.0311
10.	FLORIDA	51769	51769	2.03	.0303
11.	GEORGIA	36446	36446	2.05	.0305
12.	HAWAII	7861	7861	2.06	.0299
13.	IDAHO	5996	5996	2.01	.0298
14.	ILLINOIS	76779	76779	2.07	.0305
15.	INDIANA	36434	36434	2.07	.0306
16.	IOWA	19213	19213	2.07	.0304
17.	KANSAS	14961	14961	2.01	.0306
18.	KENTUCKY	23685	23685	2.05	.0305
19.	LOUISIANA	29913	29913	2.04	.0303
20.	MAINE	7419	7419	2.04	.0307
21.	MARYLAND	29204	29204	2.03	.0309
22.	MASSACHUSETTS	38006	38006	2.09	.0310
23.	MICHIGAN	64511	64511	2.06	.0307
24.	MINNESOTA	27702	27702	2.04	.0305
25.	MISSISSIPPI	18325	18325	2.07	.0301
26.	MISSOURI	31026	31026	2.04	.0304
27.	MONTANA	5278	5278	2.02	.0300
28.	NEBRASKA	10258	10258	2.02	.0303
29.	NEVADA	4378	4378	2.05	.0303
30.	NEW HAMPSHIRE	5684	5684	2.11	.0307
31.	NEW JERSEY	48862	48862	2.14	.0306
32.	NEW MEXICO	9247	9247	2.03	.0301
33.	NEW YORK	118587	118587	2.12	.0308
34.	NORTH CAROLINA	38412	38412	2.06	.0306
35.	NORTH DAKOTA	4503	4503	2.01	.0303
36.	OHIO	72239	72239	2.07	.0307
37.	OKLAHOMA	18497	18497	2.02	.0303
38.	OREGON	15124	15124	2.05	.0302
39.	PENNSYLVANIA	75750	75750	2.09	.0307
40.	RHODE ISLAND	5950	5950	2.11	.0310
41.	SOUTH CAROLINA	21317	21317	2.04	.0304
42.	SOUTH DAKOTA	4721	4721	2.01	.0300
43.	TENNESSEE	28518	28518	2.03	.0304
44.	TEXAS	90107	90107	2.04	.0304
45.	UTAH	9567	9567	1.94	.0300
46.	VERMONT	3380	3380	2.06	.0312
47.	VIRGINIA	34957	34957	2.04	.0304
48.	WASHINGTON	24751	24751	2.06	.0307
49.	WEST VIRGINIA	11857	11857	2.05	.0304
50.	WISCONSIN	31874	31874	2.07	.0305
51.	WYOMING	2859	2859	2.00	.0301
	TOTAL U.S.	1467987	1467987	2.07	.0305
	MEAN RATE	***	***	2.0542	.0305
	S.D. OF RATE	***	***	.0393	.0003
	RANGE: MIN , MAX	***	***	1.9433 , 2.1402	.0298 , .0312

Table 46

PROJECTED PREVALENCE AND PREVALENCE RATES BY STATE:
SET OF PREVALENCE RATES = D HANDICAP = SUMMARY

STATE	EST. OF HDCPD. AGES 3-21 (1)	EST. ADJ. FOR PL 94-142 COUNT (2)	COLUMN (2) ADJ. FOR L.D. EXCESS (3)	FINAL EST. (4)	FINAL EST. / POP 5-17 (5)	FINAL EST. / POP 3-21 (6)
1. ALABAMA	155418	134869	144998	104903	.1200	.0819
2. ALASKA	22996	20334	19043	14738	.1200	.0801
3. ARIZONA	91230	80935	84403	66591	.1200	.0803
4. ARKANSAS	81542	74192	73330	57631	.1200	.0823
5. CALIFORNIA	785397	778888	739182	564690	.1200	.0803
6. COLORADO	92151	88520	82901	68972	.1200	.0829
7. CONNECTICUT	109196	106238	98897	80463	.1200	.0788
8. DELAWARE	22572	20489	19449	15619	.1200	.0788
9. DISTRICT OF COL.	34147	31468	29806	17904	.1200	.0779
10. FLORIDA	273283	267973	270391	205122	.1200	.0808
11. GEORGIA	214699	212209	199430	143202	.1200	.0811
12. HAWAII	35020	34254	31655	31575	.1200	.0827
13. IDAHO	31365	30968	28394	24135	.1200	.0808
14. ILLINOIS	427190	410681	384269	302202	.1200	.0814
15. INDIANA	194985	188928	176127	142998	.1200	.0813
16. IOWA	98619	97163	90607	75942	.1200	.0820
17. KANSAS	79151	76985	71735	56751	.1200	.0790
18. KENTUCKY	124452	122178	114017	93197	.1200	.0807
19. LOUISIANA	177030	172068	161929	118541	.1200	.0824
20. MAINE	37649	35907	33324	29023	.1200	.0812
21. MARYLAND	169456	161422	151140	113536	.1200	.0814
22. MASSACHUSETTS	198907	185053	171963	147097	.1200	.0807
23. MICHIGAN	352264	339718	317171	251789	.1200	.0813
24. MINNESOTA	142351	141001	131455	106338	.1200	.0817
25. MISSISSIPPI	112910	110488	104332	73063	.1200	.0826
26. MISSOURI	188945	184823	174178	122289	.1200	.0804
27. MONTANA	27934	27431	25476	21140	.1200	.0809
28. NEBRASKA	53694	51045	49536	40818	.1200	.0799
29. NEVADA	23745	22939	21449	17330	.1200	.0812
30. NEW HAMPSHIRE	28973	27361	25376	22195	.1200	.0826
31. NEW JERSEY	286157	282534	265568	191381	.1200	.0838
32. NEW MEXICO	49756	49011	45318	38324	.1200	.0810
33. NEW YORK	648573	630043	588580	462746	.1200	.0828
34. NORTH CAROLINA	223381	215485	202146	153443	.1200	.0806
35. NORTH DAKOTA	23415	22636	21308	17851	.1200	.0797
36. OHIO	390418	388387	363170	282136	.1200	.0807
37. OKLAHOMA	101421	99830	93550	73306	.1200	.0802
38. OREGON	78894	75239	70117	60016	.1200	.0813
39. PENNSYLVANIA	406002	392270	365841	295926	.1200	.0817
40. RHODE ISLAND	30651	29477	27471	21065	.1200	.0816
41. SOUTH CAROLINA	128594	126078	118770	84054	.1200	.0806
42. SOUTH DAKOTA	24960	24152	22581	16903	.1200	.0804
43. TENNESSEE	158411	156168	146388	112433	.1200	.0819
44. TEXAS	494723	480384	449576	359797	.1200	.0804
45. UTAH	51098	50170	46971	38212	.1200	.0776
46. VERMONT	17151	15042	13826	12987	.1200	.0793
47. VIRGINIA	198474	194813	182556	136203	.1200	.0793
48. WASHINGTON	130047	127144	118538	96796	.1200	.0806
49. WEST VIRGINIA	61069	59879	55829	46845	.1200	.0820
50. WISCONSIN	166768	162466	151485	125354	.1200	.0816
51. WYOMING	15014	14503	13604	11405	.1200	.0797
TOTAL U.S.	8063447	7867141	7369279	5766874	.1200	.0811
MEAN RATE	***	***	***	***	.1200	.0809
S.D. OF RATE	***	***	***	***	.0000	.0013
RANGE: MAX . MIN	***	***	***	***	.1200 . .1200	.0776 . .0838

Appendix A

ABSTRACTS OF DATA SOURCES

100.00 Name of Series/Report: 1975-1976 Estimated Number of Handicapped Children Served and Unserved by Type of Handicap.

100.01 Source/Author: Bureau of Education for the Handicapped.

100.02 Estimation Date: 1975-1976 School Year.

100.03 Types of Exceptionalities Covered: Speech impaired, mentally retarded, learning disabled, emotionally disturbed, crippled and other health impaired, deaf, hard of hearing, visually handicapped, multihandicapped.

100.04 Quantity Estimated: Number of handicapped children served and unserved.

100.05 Compatibility of Definitions with PL 94-142: No definitions given, but data on children served provided prior to implementation of the Act.

100.06 Population Covered: Children and Youth in the United States aged 0-19.

100.07 Source: Primary for handicapped children served; secondary for total number of handicapped children.

100.08 Methodology: Estimated total numbers of handicapped served obtained from state educational agencies (SEAs). Numbers served by type of handicap estimated using information provided by SEAs in school year 1972-1973.

Estimates of prevalence of handicapping conditions appear to be update of Mackie's estimates using additional information provided by professional and consumer groups, and state directors of special education. For estimates of total number of handicapped by age category, assumption made that prevalence for 0-5 year olds is half the prevalence of the 6-19 year olds.

100.09 Usefulness: Data on number of children served from same agencies that provide the counts to be validated and are not validated themselves. Prevalence estimates based more on professional judgment than on survey results. No basis for assessing their accuracy.

Reference: Bureau of Education for the Handicapped, "1975-76 Estimated Number of Handicapped Children Served and Unserved by Type of Handicap," DHEW, Office of Education, Washington, D.C.: U.S. Government Printing Office (March 1976).

102.00 Name of Series/Report: Head Start Services to Handicapped Children.

102.01 Source/Author: Office of Child Development.

102.02 Estimation Date: November-December 1974.

102.03 Types of Exceptionalities Covered: Mentally retarded, hearing impaired, deaf, speech impaired, visually impaired, blind, seriously emotionally disturbed, physically handicapped (including crippled), health or developmentally impaired.

102.04 Quantity Estimated: Number of handicapped children enrolled in full year Head Start programs.

102.05 Compatibility of Definitions with PL 94-142: Used legislative definition prior to implementation of the Act.

102.06 Population Covered: Children served in the Head Start programs, 3-5 years old.

102.07 Source: Primary.

102.08 Methodology: Mail-out census of all Head Start grantees and delegate agencies was conducted to ascertain the status of all handicapped children by handicapping condition in Head Start in full-year programs.

102.09 Usefulness: Limited due to the coverage of Head Start children only.

Reference: Office of Child Development, "Head Start Services to Handicapped Children," third annual report of the U.S. Department of Health, Education, and Welfare to the Congress on Services Provided to Handicapped Children in Project Head Start, Washington, D.C.: U.S. Government Printing Office (June 1975).

104.00 Name of Series/Report: 1973 Office of Civil Rights Survey.

104.01 Source/Author: Office of Civil Rights/DHEW.

104.02 Estimation Date: 1973.

104.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, special disabilities, other special education.

104.04 Quantity Estimated: Enrollment in special education.

104.05 Compatibility of Definitions with PL 94-142: Not known.

104.06 Population Covered: Children in public schools, broken out by racial-ethnic categories, region.

104.07 Source: Primary.

104.08 Methodology: Survey of 38,977 schools in 46 states and the District of Columbia; not a statistical sample.

104.09 Usefulness: Population restricted to children being served in public schools. With exception of mental retardation, categories are not compatible with those used by BEH.

Reference: "Analysis of 1973 Participation of Handicapped Children in Local Education Programs," prepared jointly by Nelson Ford, DHEW, Office of the Assistant Secretary for Planning and Evaluation and DBS Corporation, Arlington, Virginia (September 1975).

106.00 Name of Series/Report: The Fleischmann Report.

106.01 Source/Author: The New York State Commission on the Quality, Cost and Financing of Elementary and Secondary Education.

106.02 Estimation Date: None.

106.03 Types of Exceptionalities Covered: Educable and trainable mentally retarded, hearing impaired, visually handicapped, speech impaired, physically handicapped, brain injury and learning disability, emotionally handicapped, multiple handicaps.

106.04 Quantity Estimated: Prevalence estimates.

106.05 Compatibility of Definitions with PL 94-142: No basis for judgment.

106.06 Population Covered: National estimates for age groups 5 through 19.

106.07 Source: Secondary.

106.08 Methodology: Array estimates by handicap from several studies such as Mackie, et al., 1970; McCarthy and McCarthy, 1970; derive a set of conservative estimates and liberal estimates as a composite of the above.

106.09 Usefulness: No assessments of accuracy, but does provide synthesis of earlier prevalence estimates.

Reference: The Fleischmann Report, Volume II, New York State Commission on the Quality, Cost and Financing of Elementary and Secondary Education, New York, New York: The Viking Press (1973).

108.00 Name of Series/Report: Services for Handicapped Youth: A Program Overview.

108.01 Source/Author: James S. Kakalik, G. Brewer, L. Dougharty, P. Fleischauer, and S. Genensky.

108.02 Estimation Date: None.

108.03 Types of Exceptionalities Covered: Speech impaired, emotionally disturbed, mentally retarded, learning disabled, hard of hearing, deaf, crippled or other health impaired, visually impaired, multihandicapped.

108.04 Quantity Estimated: Prevalence estimates, population served.

108.05 Compatibility of Definitions with PL 94-142: Not available.

108.06 Population Covered: Youth.

108.07 Source: Review.

108.08 Methodology: Array estimates by handicap from several studies (National Center for Educational Statistics, 1972; Fleischmann, 1972; Exotech/BEH, 1971; Rossmiller, et al., 1970; BEH, 1970; National Society for the Prevention of Blindness, 1966; Public Health Service (National Health Survey), 1965; Mackie, et al., 1963).

108.09 Usefulness: Limited to review of prior studies. Good discussion of issues in definition and evaluation.

Reference: Kakalik, J.S., et al., "Services for Handicapped Youth: A Program Overview," prepared for the Office of the Assistant Secretary for Planning and Evaluation, DHEW; Santa Monica, California: Rand Corporation (May 1973).

110.00 Name of Series/Report: Prevalence of Selected Impairments, U.S. 1971, Health Interview Survey.

110.01 Source/Author: National Center for Health Statistics.

110.02 Estimation Date: 1971.

110.03 Types of Exceptionalities Covered: Vision, hearing, speech, paralysis, absence of extremeties, orthopedic defects.

110.04 Quantity Estimated: Prevalence estimates.

110.05 Compatibility of Definitions with PL 94-142: Survey uses medical definition of impairments that is broader in scope than the definition of handicap in the Act.

110.06 Population Covered: Civilian noninstitutionalized population of the United States; in publication is broken out by age, sex, race, family income, place of residence, geographic region. Age breakout includes "under 17" category.

110.07 Source: Primary.

110.08 Methodology: Household interviews conducted on 44,000 households containing about 134,000 persons. Multistage probability sampling design was used. From printed material, it does not appear possible to get an unduplicated count.

110.09 Usefulness: Limited because of medical rather than educational approach to definition. Also estimates based on household interviews rather than evaluations.

Reference: National Center for Health Statistics, "Prevalence of Selected Impairments, United States 1971," Series 10, No. 99, DHEW Publication No. (HRA) 75-1526, Division of Health Interview Statistics, Washington, D.C.: U.S. Government Printing Office (May 1975).

112.00 Name of Series/Report: Statistics on Education of the Handicapped in Local Public Schools, Spring 1970.

112.01 Source/Author: National Center for Education Statistics (A.S. Metz).

112.02 Estimation Date: Spring 1970.

112.03 Types of Exceptionalities Covered: Speech impaired, learning disabled, mentally retarded, emotionally disturbed, hard of hearing, deaf, crippled, partially sighted, blind.

112.04 Quantity Estimated: Prevalence; receiving special instruction; number of teachers.

112.05 Compatibility of Definitions with PL 94-142: Definitions used in the survey are generally compatible with those given in PL 94-142, i.e. pupil has an impairment that is sufficient to require specialized instruction.

112.06 Population Covered: Pupils in local public schools in 50 states and the District of Columbia. Data broken out by school level, size of place, and enrollment size of school.

112.07 Source: Primary.

112.08 Methodology: Mail survey of local public school principals. Stratified sample design included 1,996 schools. Data from the 1970 School Staffing Survey.

112.09 Usefulness: Provisions for unduplicated count within handicap category, but not across categories. A pilot study had found an extremely low prevalence (about 1%) of multiple handicapped children. Data available in hard copy. Estimates based on responses by administrators with no attempt by NCES to verify. Sampling error, however, can be addressed.

Reference: Metz, A.S., Statistics on Education of the Handicapped in Local Public Schools Spring 1970, DHEW Publication No. (OE) 74-11113, National Center for Education Statistics, Washington, D.C.: U.S. Government Printing Office (1973).

114.00 Name of Series/Report: Behavior Patterns of Youths 12-17 years, 1966-1970. National Health Examination Survey.

114.01 Source/Author: National Center for Health Statistics.

114.02 Estimation Date: 1966-1970.

114.03 Types of Exceptionalities Covered: Rating by school personnel on need and use of special resources in the following relevant areas: mental retardation, emotionally disturbed, orthopedically handicapped, hard of hearing, visually handicapped, speech therapy; audiometry test; vision test; psychological examination; physical examination.

114.04 Quantity Estimated: From teacher ratings one can estimate prevalence and service rate; from examinations one could estimate prevalence.

114.05 Compatibility of Definitions with PL 94-142: Question posed to teachers regarded special resources recommended, available, and used. No additional definition of terms was given. The results of the audiometry, vision, psychological, and physical exam could be used to derive prevalence, but there was no way of assessing need for special education and related services.

114.06 Population Covered: The target population included all non-institutionalized children between the ages of 12 and 17 within the continental United States. Data can be broken out by age, race, income, region and other demographic and socio-economic characteristics included in the survey.

114.07 Source: Primary.

114.08 Methodology: Data collected by direct physical examinations, tests, and measurements, parent and school questionnaires, and birth certificates. A total of 6,768 persons were included in the survey.

114.09 Usefulness: The data files were not publicly available as of Summer 1977. Many of the results have been published, however, in the NCHS Vital and Health Statistics Series 11. Data are rather old and estimates must be based either on teacher opinion or medically oriented results.

Reference: National Center for Health Statistics, "Behavior Patterns in School of Youths 12-17 Years," Series 11, No. 139, DHEW Publication No. (HRA) 74-1621, Division of Health Examination Statistics, Washington, D.C.: U.S. Government Printing Office (1974).

116.00 Name of Series/Report: Educational Programs for Exceptional Children: Resource Configurations and Costs.

116.01 Source/Author: Richard A. Rossmiller, James A. Hale, and Lloyd E. Frohreich.

116.02 Estimation Date: None.

116.03 Types of Exceptionalities Covered: Educable and trainable mentally retarded, auditorily handicapped, visually handicapped, speech handicapped, physically handicapped, neurological and special learning disorders, emotionally disturbed, multiple handicapped.

116.04 Quantity Estimated: Prevalence of exceptionality requiring special education.

116.05 Compatibility of Definitions with PL 94-142: No information available.

116.06 Population Covered: Children, aged 17 and below in the United States.

116.07 Source: Secondary.

116.08 Methodology: Arrayed prevalence estimates from several sources (Mackie and Dunn, 1954; Mackie et al., 1963; BEH, 1968; Operations Research, Inc. 1970; California State Department of Education, 1968; Wisconsin Department of Public Instruction, 1970; Rossmiller et al., 1970). Derived composite set of estimates primarily from last three sources listed, "tempered by the research team's best judgment concerning the true prevalence of the various exceptionalities..." (Rossmiller, 1971, p. 63).

116.09 Usefulness: Useful in arraying results from prior studies and providing a synthesis.

Reference: Rossmiller, R.A., J. Hale, and L. Frohreich, Educational Programs for Exceptional Children: Resource Configurations and Costs, Madison, Wisconsin: The University of Wisconsin (1970).

118.00 Name of Series/Report: Special Education in the United States: Statistics 1948-1966.

118.01 Source/Author: Romaine Mackie.

118.02 Estimation Date: 1966 and selected prior years.

118.03 Types of Exceptionalities Covered: Visually handicapped, deaf, hard of hearing, speech impaired, crippled, special health problems, emotionally and socially maladjusted, mentally retarded.

118.04 Quantity Estimated: Prevalence of school-age children in need of special education, and enrollment in special education.

118.05 Compatibility of Definitions with PL 94-142: Definitions extremely loose; none specifically stated, except that in one 1963 survey they accepted classifications used by local school systems.

118.06 Population Covered: Pupils aged 5 to 17 in local public schools and public and private residential schools for the handicapped: 50 states and the District of Columbia.

118.07 Source: Data on pupil enrollment was primary; data on prevalence was secondary.

118.08 Methodology: Pupil enrollment data for 1966 based on estimates generated in a 1963 Office of Education Survey, Statistics of Special Education for Exceptional Children. The survey included 6,319 local public school systems and 736 residential schools. Estimation procedure and sample design were not given in text.

Prevalence estimates were based on information from several sources, including state education agencies, other government agencies, text books, professional organizations, and consumer groups.

118.09 Usefulness: Source is more than ten years old. No assessment of accuracy of prevalence estimates.

Reference: Mackie, R.P., Special Education in the United States: Statistics 1948-1966, New York, New York: Teachers College Press, Columbia University (1969).

120.00 Name of Series/Report: Behavior Patterns of Children in School, 1963-1965. National Health Examination Survey of Children 6-11 Years.

120.01 Source/Author: National Center for Health Statistics.

120.02 Estimation Date: 1963-1965.

120.03 Types of Exceptionalities Covered: Rating by school personnel on need for special resources and use in following areas: hard of hearing, sight saving, speech therapy, orthopedically handicapped, mentally retarded, emotionally disturbed; audiometry test; vision test; psychological examination, including WISC; physical examination.

120.04 Quantity Estimated: From teacher ratings one can estimate prevalence and service rate; from examinations one could estimate prevalence.

120.05 Compatibility of Definitions with PL 94-142: Question posed to teachers regarded special resources recommended, available, and used. No additional definition of terms was given. The results of the audiometry, vision, psychological, and physical exam could be used to derive prevalence, but there was no way of assessing need for special education and related services.

120.06 Population Covered: The target population included all non-institutionalized children between the ages of 6 and 11 within the continental United States. Data can be broken out by age, race, income, region, size of place, and many other demographic and socioeconomic characteristics included in the survey.

120.07 Source: Primary.

120.08 Methodology: Data collected by direct physical examinations, tests, and measurements, parent and school questionnaires, and birth certificates. A complex multistage sampling design was used that included 7,119 children.

120.09 Usefulness: The integrated data tape file is currently available. Standard errors can also be generated. Data are old, however, and estimates must be based on teacher opinion or medically-oriented results.

Reference: National Center for Health Statistics, "Behavior Patterns of Children in School," Series 11, No. 113, DHEW Publication No. (HSM) 72-1042, Division of Health Examination Statistics, Washington, D.C.: U.S. Government Printing Office (February 1972).

122.00 Name of Series/Report: "Studies of Handicapped Students," Volumes I and II (Using 1963-1965 NCHS Data).

122.01 Source/Author: Craig and McEachron (1975); Craig (1977).

122.02 Estimation Date: 1963-1965.

122.03 Types of Exceptionalities Covered: Mentally retarded, hearing impaired, speech therapy, visually impaired, emotionally disturbed, orthopedically handicapped, slow learners, gifted.

122.04 Quantity Estimated: Prevalence of children in need of special education.

122.05 Compatibility of Definitions with PL 94-142: Not entirely compatible.

122.06 Population Covered: Noninstitutionalized children, aged 6-11, in the continental United States.

122.07 Source: Primary.

122.08 Methodology: The 1963-65 NCHS data which contain extensive health, behavioral and school-related information on handicapped children were reanalyzed. Volume II presented findings that compared teacher assessment of the need for special educational services with medical examination findings, test scores, developmental histories and school behavior. The major research questions included:

- How do teacher-reported rates compare with rates based on other criteria defined by the NCHS data?
- How much agreement is there between teachers and the other criteria on which children need special education?
- What is the relationship of pattern of prevalence, based on various criteria, across demographic characteristics?

The analytical approach was to examine the NCHS data file description and to identify variables that would be useful in special education. The criteria were derived in consultation with psychologists, pediatricians, and other handicap specialists. Each criterion represents a way of classifying children by whether or not they are likely to require special education services. Separate criteria for each source (i.e., medical examination, test, and parent report) were created, when possible, because of differences in the type of data generated from each source. Subsequent data analysis consisted of the tabulations of rates at which children were classified as

needing special services, based on each criterion. Relative rates, across selected demographic and socioeconomic characteristics, were described by tabulating the percent distributions of children who were classified as needing special services for categories defined by race, income, age, region, and size of place.

122.09 Usefulness: Craig notes that although the NCHS data are old, they represent a set of data on such a large number of American children. She also indicates that data collection was both comprehensive and carefully conducted. However, some of the definitional problems associated with the reanalysis criteria present problems for using these data for the generation of prevalence estimates.

Reference: Craig, P., "Studies of Handicapped Students, Volume II," prepared for the Assistant Secretary for Education, DHEW, Menlo Park, California: SRI International (Unpublished Draft 1977).

124.00 Name of Series/Report: Statistics of Special Education for Exceptional Children and Youth, 1957-1958.

124.01 Source/Author: Romaine Mackie, Harold Williams and Patricia Hunter as cited by R. Rossmiller in Educational Programs for Exceptional Children: Resource Configurations and Costs.

124.02 Estimation Date: 1957-1958.

124.03 Types of Exceptionalities Covered: Gifted, educable mentally retarded, auditorily handicapped, visually handicapped, speech handicapped, physically handicapped, emotionally disturbed.

124.04 Quantity Estimated: Prevalence of children in need.

124.05 Compatibility of Definitions with PL 94-142: Not available.

124.06 Population Covered: Not available.

124.07 Source: Not available.

124.08 Methodology: Not available.

124.09 Usefulness: Not available.

Reference: Mackie, R.P., H. Williams, and P. Hunter, "Statistics of Special Education for Exceptional Children and Youth, 1957-1958," USOE Bulletin OE-35048-58, Washington, D.C.: U.S. Government Printing Office (1963).

126.00 Name of Series/Report: "College and University Programs for the Preparation of Teachers of Exceptional Children."

126.01 Source/Author: Romaine Mackie and Lloyd Dunn as cited by R. Rossmiller in Educational Programs for Exceptional Children: Resource Configurations and Costs.

126.02 Estimation Date: Not available.

126.03 Types of Exceptionalities Covered: Gifted, educable mentally retarded, auditorily handicapped, visually handicapped, speech handicapped, physically handicapped, emotionally disturbed.

126.04 Quantity Estimated: Prevalence of children in need of special education.

126.05 Compatibility of Definitions with PL 94-142: Not available.

126.06 Population Covered: Not available.

126.07 Source: Not available.

126.08 Methodology: Not available.

126.09 Usefulness: Not available.

Reference: Mackie, R.P., and L. Dunn, "College and University Programs for the Preparation of Teachers of Exceptional Children," Bulletin No. 13, DHEW, Office of Education, Washington, D.C.: U.S. Government Printing Office (1954).

200.00 Name of Series/Report: Directory of Learning Disabilities Services for State Education agencies.

200.01 Source/Author: National Association of State Directors of Special Education (NASDSE).

200.02 Estimation Date: 1976.

200.03 Types of Exceptionalities Covered: Learning disabilities.

200.04 Quantity Estimated: The range of reported state prevalence rates are as follows:

Number of States	Range of Prevalence Estimates
9	1-1.9%
17	2-2.9%
17	3-6.9%
4	6-8.0%

200.05 Compatibility of Definitions with PL 94-142: Twenty-four states have adopted PL 94-142's definition of specific learning disability. The other states use different definitions that are presented in this report.

200.06 Population Covered: Fifty-four "states" including the District of Columbia, Guam, Puerto Rico and the Bureau of Indian Affairs.

200.07 Source: Primary.

200.08 Methodology: NASDSE compiled data from a mail survey of State Education Agency (SEA) personnel.

200.09 Usefulness: The range of these prevalence estimates highlights the definitional problems associated with learning disabilities. Although overall estimates of the number of LD children eligible for special education, as well as the number of LD children served, for a large number of states, there are no breakdowns by age, race, SES, grade level, region, or size of place.

Reference: NASDSE, "Directory of Learning Disabilities Services for State Education Agencies," Washington, D.C.: National Association of State Directors of Special Education (1976).

202.00 Name of Series/Report: Distribution of January 5, 1976, Quota Registration by School Grades and Braille and Large Type Reading (1975 Annual Survey).

202.01 Source/Author: American Printing House for the Blind.

202.02 Estimation Date: 1975.

202.03 Types of Exceptionalities Covered: Prevalence of blind; braille or large type, deaf-blind, cerebral palsy.

202.04 Quantity Estimated: 28,995 students.

202.05 Compatibility of Definitions with PL 94-142: Compatible with the law. APHB defines "legally blind" as 20/200 vision or less with corrective lenses, or those individuals with less than 20° vision. "Large type" are those persons who have some vision that enables them to read enlarged type of 18 points.

202.06 Population Covered: Kindergarten-12th grade, ungraded, post-graduate, adult trainees, deaf-blind, cerebral palsy, schools for the blind and state departments of education. Children in public, private and parochial schools are included.

202.07 Source: Primary.

202.08 Methodology: Data are gathered on pupils, as of the first Monday in January. Children who are legally blind and are enrolled in formal schooling must be certified legally blind by the physician and the report must be verified by the reporting agencies. These reporting agencies than report to APHB, which then cross-checks for duplication of reports from more than one agency. Finally, data are tabulated according to category (i.e., large type, braille, both, neither), grade and schools for the blind or State Department of Education.

202.09 Usefulness: These data are certified by physicians and reporting agencies. Population in this study reflects those registered to receive federal funds for educational materials, and data are gathered from reporting agencies which are receiving funds.

Reference: American Printing House for the Blind, "Distribution of January 5, 1976, Quota Registrations by School Grades and Braille and Large Type Reading," (1975 Annual Survey) Louisville, Kentucky (1976).

204.00 Name of Series/Report: Support for Vision Research.

204.01 Source/Author: National Advisory Eye Council.

204.02 Estimation Date: 1970-1974.

204.03 Types of Exceptionalities Covered:

Impaired Vision--any response during interview indicating blindness in one or both eyes, cataract, glaucoma, color blindness, detached retina or other condition of the retina, or any other trouble seeing in one or both eyes even when wearing glasses.

Severe Visual Impairment--any response during interview indicating impaired vision as defined above with additional response indicating inability to read ordinary print with glasses using both eyes (six years or older) or any response during interview indicating the person has no useful vision in either eye or is "blind" in both eyes (any age).

Legal Blindness--visual acuity for distant vision of 20/200 or less in better eye with best correction, or widest diameter of visual field subtending an angle of less than 20 degrees.

204.04 Quantity Estimated: Differs according to study being quoted.

204.05 Compatibility of Definitions with PL 94-142: Compatible with Act.

204.06 Population Covered: Total population; adults and children, age group data not included.

204.07 Source: Secondary.

204.08 Methodology: Data obtained from Health Interview Survey (HIS), the National Disease and Therapeutic Index, Statistics on Blindness in the Model Reporting Areas, NCHS Nursing Home Survey, NCHS National Ambulatory Medical Care Survey (NCHS), Hospital Discharge Survey, and Professional Activities Study.

204.09 Usefulness: Note: if the number of cases involving only impaired vision is desired, the severe visual impairment category figures must be subtracted from the impaired vision figures.

Reference: National Advisory Eye Council, Support for Vision Research, Interim Report, DHEW Publication No. (NIH) 76-1098, National Institutes of Health, Washington, D.C. (1976).

206.00 Name of Series/Report: "Severely Emotionally Disturbed."

206.01 Source/Author: J. Kauffman as cited by Norris Haring in Behavior of Exceptional Children.

206.02 Estimation Date: Undetermined.

206.03 Types of Exceptionalities Covered: Severely emotionally disturbed.

206.04 Quantity Estimated: .1% of school-aged children in the United States.

206.05 Compatibility of Definitions with PL 94-142: Not compatible because it deals with the institutionalized population.

206.06 Population Covered: Institutionalized school-age population in the United States.

206.07 Source: Secondary.

206.08 Methodology: Estimate based on 1972 HEW data regarding residential mental patients in state and county mental hospitals and on estimates provided by Hingtgen and Bryson (1972) of the number of cases of childhood psychosis in the United States and England (range from 2/10,000 to 4.5/10,000).

206.09 Usefulness: Estimate lacks a firm data base.

Reference: Kauffman, J., "Severely Emotionally Disturbed," in Norris Haring, ed., Behavior of Exceptional Children, Columbus, Ohio: Merrill Publishing Company (1974).

208.00 Name of Series/Report: Learning Disabilities.

208.01 Source/Author: James McCarthy and Joan McCarthy.

208.02 Estimation Date: 1963.

208.03 Types of Exceptionalities Covered: Learning disabilities.

208.04 Quantity Estimated: Not available.

208.05 Compatibility of Definitions with PL 94-142: Definition is compatible with the Act.

208.06 Population Covered: School-age children.

208.07 Source: Review (from an article--"Some Epidemiological Aspects of Congenital Brain Damage," in Brain Damage in Children, pg. 120 + 122-3) (1964).

208.08 Methodology: Review of literature.

208.09 Usefulness: Undetermined.

Reference: McCarthy, J.J., and J.F. McCarthy, Learning Disabilities, Boston, Massachusetts: Allyn and Bacon, Inc. (1969).

210.00 Name of Series/Report: A Preliminary Exploration of Awareness of the Epilepsies Among Educators.

210.01 Source/Author: Epilepsy Foundation of America.

210.02 Estimation Date: 1973-1974.

210.03 Types of Exceptionalities Covered: Epilepsy.

210.04 Quantity Estimated: 38 state directors of education.

210.05 Compatibility of Definitions with PL 94-142: Some states included epilepsy as a neurological impairment and others listed it as a physical handicap. Only three states used the "other health impaired" category.

210.06 Population Covered: School-age children.

210.07 Source: Primary.

210.08 Methodology: In consultation with BEH, the Epilepsy Foundation of America (EFA) sent out questionnaires to 50 state directors of special education. The EFA then tabulated its findings and compared the states' estimates with EFA estimates which were based on 1971 statistical abstract of the public school population. Data were also gathered on faculty and facilities for special education, and costs of educating children with epilepsy.

Four types of questions were included in the questionnaire:

- How is epilepsy defined as a handicap?
- What is the state of knowledge of statistics on children with epilepsy in special education?
- What faculties and facilities for special education are available to children with epilepsy? and
- What is the cost of special education for the child with epilepsy?

210.09 Usefulness: 90% response rate (or 45 states). Seven of the 45 states reported "no data" with which to answer questionnaire.

Reference: Epilepsy Foundation of America, "A Preliminary Exploration of Awareness of the Epilepsies Among Educators," Washington, D.C.: Epilepsy Foundation of America (1974).

212.00 Name of Series/Report: The Economics of Mental Retardation.

212.01 Source/Author: Ronald W. Conley.

212.02 Estimation Date: 1936-1965.

212.03 Types of Exceptionalities Covered: Mentally retarded.

212.04 Quantity Estimated: Not available.

212.05 Compatibility of Definitions with PL 94-142: Definition is compatible with law.

212.06 Population Covered: 0 to 20-year-old children and adult population.

212.07 Source: Secondary.

212.08 Methodology: Reviewed epidemiological studies of two types: agency surveys and household surveys. Conley then generated his own estimates.

212.09 Usefulness: Conley expresses the concern that agency surveys report lower prevalence rates than household surveys because retardates are not known to agencies, in particular those with mild retardation.

Reference: Conley, R.W. The Economics of Mental Retardation, Baltimore, Maryland: John Hopkins University Press (1973).

214.00 Name of Series/Report: A Strategy for Evaluating Health Services.

214.01 Source/Author: Institute of Medicine, D.M. Kessner.

214.02 Estimation Date: Not available.

214.03 Types of Exceptionalities Covered: Visual disorders.

214.04 Quantity Estimated: Undetermined.

214.05 Compatibility of Definitions with PL 94-142: Undetermined.

214.06 Population Covered: School-age children.

214.07 Source: Review.

214.08 Methodology: Review of literature.

214.09 Usefulness: Undetermined.

Notes: 50.7 million school-age children in the United States require professional visual care. Severe visual impairment and blindness is defined as 20/200 or worst in the better eye with best correction. Boys' blindness prevalence rate is 16-26% greater than that of girls. Blacks have a prevalence rate of nearly 20% higher than whites (Schiffer and Hunt).

Reference: Kessner, D.M., A Strategy for Evaluating Health Services, Contrasts in Health Status, Volume 2, Washington, D.C.: Institute of Medicine (1973).

"Causes of Blindness in School Children" Sight-Saver Review, Volume 33, pp. 218-233 (1973).

216.00 Name of Series/Report: Characteristics of Hearing Impaired Students by Hearing Status (1970-71 Annual Survey).

216.01 Source/Author: Office of Demographic Studies, Gallaudet College.

216.02 Estimation Date: 1970-71 school year.

216.03 Types of Exceptionalities Covered: Hearing impaired. Multiple handicapped.

216.04 Quantity Estimated: Over 41,000 hearing-impaired students.

216.05 Compatibility of Definitions with PL 94-142: Deaf students and "hard of hearing" students were divided using any point under 85dB as being classified as "hard of hearing" and "85dB and above" is considered "deaf."

216.06 Population Covered: School-age children.

216.07 Source: Primary.

216.08 Methodology: Sent out letters to 755 program directors who offered special educational services. Approximately 75% agreed to participate in the survey. Two forms were used in gathering the data; one for students under six years of age and one for six years or older. The difference between the two forms is the section on Educational History and Present Educational Program. The degree of hearing loss is reported in terms of a better ear average.

216.09 Usefulness: Because most residential and day care centers are participants of Gallaudet's Annual Survey, they are well represented. However, the authors feel that students who are receiving part-time services are not yet reflected in the survey. A problem encountered was that the survey tried to obtain information that schools did not have for all children, which makes it difficult to know the true distribution of the data.

Reference: "Characteristics of Hearing Impaired Students by Hearing Status, United States: 1970-71," Series D, No. 10, Annual Survey of Hearing Impaired Children and Youth, Office of Demographic Studies, Gallaudet College, Washington, D.C. (March 1973).

218.00 Name of Series/Report: The Deaf Population of the United States.

218.01 Source/Author: Jerome Schein and Marcus Delk, conducted by the National Association of the Deaf.

218.02 Estimation Date: 1970-1971.

218.03 Types of Exceptionalities Covered: Prevalence of deaf/hearing impairment - prevocationally deaf - national estimates.

218.04 Quantity Estimated: 410,522 total. Subjects included all ages.

218.05 Compatibility of Definitions with PL 94-142: Definitions not entirely compatible with law.

Deafness--inability to hear and understand speech.

Hearing impairment--all significant deviations from normal, includes deafness.

Significant bilateral hearing impairment--losses in both ears, the better ear having some difficult hearing and understanding speech.

NCDP's definition of deafness makes no reference to hearing-aid use, and their definition is not modified by reference to correction.

218.06 Population Covered: Population consisted of prevocationally deaf persons who are those "who could not hear and understand speech and who had lost (or never had) that ability prior to 19 years of age."

218.07 Source: Primary/Secondary; used National Health Survey 1971 (secondary) and a verified list (primary).

218.08 Methodology: National list was compiled of deaf persons. Persons were then contacted to establish that they met NCDP criteria, were alive and residing at given address. Next, a probability sample of 42,000 households in the United States was drawn and subjects were interviewed to locate all prevocationally deaf persons in household. Comparison of the prevocationally deaf persons in the household to those on the verified list enabled the completeness of the list to be estimated. They then added the number probably not on the list to the actual number on the verified list which yielded the total number of prevocationally deaf (p.d.).

*Verified list = 98,448 p.d. persons (unduplicated count), added unduplicated estimates of p.d. from the Health Interview Survey (HIS) of the National Health Survey (NHS) = 312,074. (1971). Total = 410,522

218.09 Usefulness: Standard error for estimates of deaf without regard to age at the onset was 3.9%. Standard error for the combined estimate is 6.3% (because verified list is an actual count with no errors and the NHS had a standard error of 8.3%).

Reference: Schein, J.D., and M. Delk, Jr., The Deaf Population of the United States, Silver Springs, Maryland: National Association of the Deaf (1974).

220.00 Name of Series/Report: A Survey of Public School Special Education Programs for Emotionally Disturbed Children.

220.01 Source/Author: Alfred Hirshoren, Edward Schultz, Anne Manton, Robert Henderson.

220.02 Estimation Date: 1970.

220.03 Types of Exceptionalities Covered: Emotionally disturbed.

220.04 Quantity Estimated: 51 directors of special education or the specialist in that field.

220.05 Compatibility of Definitions with PL 94-142: Definitions varied by state. Some states placed emphasis on behavior and/or adjustment problems, causal factors, or left the definition of "emotionally disturbed" up to the diagnostician.

220.06 Population Covered: School-age children.

220.07 Source: Primary.

220.08 Methodology: Comprehensive list search of American public school programs for emotionally disturbed. Review of list since 1960. Questionnaires were sent to directors of special education in each of the 50 states and District of Columbia. The questionnaires asked the Director of Special Education or his specialist in the area of emotionally disturbed to fill out the application. Forms were sent in 1970. Tabulation of data was made for the entire country and by region.

220.09 Usefulness: No general definition of emotional disturbance was found in the research literature. Available research tends to define emotionally disturbed as behind their normal peers in achievement, behavior and adjustment. 100% response rate to questionnaires sent. However, the authors cautioned that report as seen by state directors of special education and his specialist. Various terminology was also used by states, i.e., emotionally disturbed, emotionally handicapped, emotionally maladjusted. Respondents were also asked to give prevalence estimates. Authors state that one-half of states used USOE estimates and 13 indicated their estimates to be based on local or state-wide studies.

Reference: Hirshoren, A., et al., "A Survey of Public School Special Education Programs for Emotionally Disturbed Children," Special Education Monograph No. 1-70, Department of Special Education, University of Illinois, Urbana-Champaign, Illinois (December 1970).

222.00 Name of Series/Report: "Age Distribution of Blind Persons in the U.S., 1970."

222.01 Source/Author: National Society for the Prevention of Blindness, Inc. (NSPB).

222.02 Estimation Date: 1969-1970.

222.03 Types of Exceptionalities Covered: Blind children.

222.04 Quantity Estimated: Population of 42,700.

222.05 Compatibility of Definitions with PL 94-142: Definition is compatible with law. NSPB defines "legally blind" as corrected vision of 20/200 or less.

222.06 Population Covered: Children between the ages of 5-19 in the United States, District of Columbia, Virgin Islands, and Puerto Rico.

222.07 Source: Secondary.

222.08 Methodology: Used statistics from the Statistics on Blindness in the Model Reporting Area, 1969-1970.

222.09 Usefulness: Statistics reflect the number of registered blind persons in each of the 16 states in the Model Reporting Area.

Reference: National Society for the Prevention of Blindness, "Age Distribution of Blind Persons in the United States, 1970," New York, New York: Operational Research Department, National Society for the Prevention of Blindness, Inc. (August 1975).

224.00 Name of Series/Report: Epidemiology of Mental Retardation.

224.01 Source/Author: Rick Heber.

224.02 Estimation Date: 1970.

224.03 Types of Exceptionalities Covered: All forms of mental retardation.

224.04 Quantity Estimated: Varied depending on source sited.

224.05 Compatibility of Definitions with PL 94-142: The author defines mental retardation as two standard deviations or more below normal on an IQ test coupled with non-adaptive behaviors. But there is no description of the definitions used by the sources sited. For this reason it is impossible to determine if the figures sited are compatible with PL 94-142.

224.06 Population Covered: Children 0-19 years of age; most data is for the United States but there is some international data. Some data is broken down by age, sex, race, socioeconomic status, or family characteristics. The majority of the data is given by diseases and conditions associated with mental retardation.

224.07 Source: Review.

224.08 Methodology: Review of literature.

224.09 Usefulness: There are two major drawbacks for this book: many sources are sited on each table, and the definition of mental retardation used by each source is not described. Other factors, such as the year of the source, the geographic location, and the age of the population sampled, are not held constant during the comparisons. Therefore, the conclusions described should be reviewed with caution.

Reference: Heber, R., Epidemiology of Mental Retardation, Springfield, Illinois: Charles C. Thomas Publishing Company (1970).

226.00 Name of Series/Report: Summary of Selected Characteristics of Hearing Impaired Students; United States: 1969-1970 (Annual Survey).

226.01 Source/Author: Office of Demographic Studies, Gallaudet College.

226.02 Estimation Date: 1969-1970 school year.

226.03 Types of Exceptionalities Covered: Hearing imparied.

226.04 Quantity Estimated: 35,285 students.

226.05 Compatibility of Definition with PL 94-142: Study does not categorize "deaf" or "hard of hearing." Report is categorized according to threshold levels in decibels.

226.06 Population Covered: School-age students.

226.07 Source: Primary.

226.08 Methodology: All educational programs for the hearing impaired known to Gallaudet's Survey Office were invited to participate. Data were gathered through two forms; the forms used determined if children reported in the previous year's survey were still in the same program. If so, data obtained the previous year was not requested again. Forms solicited information concerning:

- The educational program in which the child is involved
- The educational history
- The history of hearing loss
- Audiological findings
- Intelligence test
- Additional handicapping conditions
- Hearing aid use.

226.09 Usefulness: The data gathered represented 80% of all students in schools and classes for the hearing impaired. Data reflecting itinerant special education programs in this survey is estimated to represent about one-third of all such students. Some questionnaires requested data that were not known or available. Those items, the authors warn, make it difficult to know the true distribution of the data.

Reference: "Summary of Selected Characteristics of Hearing Impaired Students, United States: 1969-70," Series D, No. 5, Annual Survey of Hearing Impaired Children and Youth, Office of Demographic Studies, Gallaudet College, Washington, D.C. (June 1971).

228.00 Name of Series/Report: The Making of Blind Men.

228.01 Source/Author: Robert A. Scott.

228.02 Estimation Date: 1957-1962.

228.03 Types of Exceptionalities Covered: Blindness.

228.04 Quantity Estimated: Not available.

228.05 Compatibility of Definitions with PL 94-142: Not available.

228.06 Population Covered: School-age children under 21 and adult population.

228.07 Source: Secondary.

228.08 Methodology: Used four major studies: three are based on case-finding methods in which an entire population or a representative sample of it has been screened for instances of blindness, and the fourth study based upon data from registers of the blind. Case-finding methods were conducted as part of the National Health Survey. Scott then comes up with prevalence figures according to his "rule-of-thumb" technique.

228.09 Usefulness: Scott uses a "rule-of-thumb" approach in estimating the approximate number of blind school-age children. This rule, which has been adopted by many educators and specialists on blind children, says that school-age children make up about two-thirds of the total population of blind children and pre-schoolers account for the remaining one-third. Using this "rule-of-thumb", he projects the approximate number of blind school-age kids as 27,000 children under 21, Blindness rate for persons under 21 is .35.

Reference: Scott, R.A., The Making of Blind Men: A Study of Adult Socialization, New York, New York: Russell Sage Foundation, Princeton University (1969).

230.00 Name of Series/Report: "Why Are They Blind?"

230.01 Source/Author: Elizabeth Hatfield.

230.02 Estimation Date: 1968-1969 school year.

230.03 Types of Exceptionalities Covered: Blindness according to geographic location, sex, age, ocular defect, amount of remaining vision, and by etiology.

230.04 Quantity Estimated: 3,885 students (or 19.2% of the 20,216 registered with the American Printing House for the Blind APH).

230.05 Compatibility of Definitions with PL 94-142: Blind-central visual acuity for distance of 20/200 or less in better eye with correction or, if greater than 20/200, a field of vision no greater than 20° in the widest diameter.

230.06 Population Covered: School age blind population between 5-19 years of age enrolled in private schools for the blind and public schools during the 1968-1969 school year.

230.07 Source: Primary.

230.08 Methodology: Basic data come from eye reports supplied by residential schools for the blind, state department of education, local school systems, and state agencies for the blind. Study used records for a sample of the legally blind students. Each participating agency took a 20% random sample (or one of every five) of legally blind students between 5-19 years on the list prepared for and approved by the American Printing House for the Blind as of January 1969. Reports were secured from all states except Alaska and District of Columbia.

230.09 Usefulness: Study population may not be representative of the blind population. Information on some sample students limited and most often diagnostic information on cause of blindness was not available or could not be secured. "Disadvantage of this procedure was that it served to inflate the 'not determined or not specified' cause category."*

Reference: Hatfield, E.M., "Why Are They Blind?," The Sight-Saving Review, Volume 45, No. 1, pp. 3-22 (Spring 1975).

* Author's comments.

232.00 Name of Series/Report: National Speech and Hearing Survey.

232.01 Source/Author: Forrest Hull, Paul Mielke, Jack Willeford, Roy Timmons.

232.02 Estimation Date: 1968-1969 school year.

232.03 Types of Exceptionalities Covered: Speech and hearing.

232.04 Quantity Estimated: 38,884 students (38,568 hearing tests and 38,802 speech tests).

232.05 Compatibility of Definitions with PL 94-142: Defines hearing impairment as anything over 25 dB. Speech disorders were classified as "voice disorders" of which three levels of voice performance groups were derived (acceptable voice, mild voice deviation, and extreme voice deviation).

232.06 Population Covered: Grades 1-12.

232.07 Source: Primary.

232.08 Methodology: Sample taken from public school district lists of students in grades 1-12 in 48 states and the District of Columbia. The frame construction consisted of three stages of stratification:

- Stratification of geographic partitioning into nine census divisions defined by the Bureau of Census.
- Mutually exclusive partitioning of the nine census districts into five district-size groups according to their enrollment totals. This stage is to avoid a "disproportionate representation of similar-size communities."
- Partitioning by state of the districts within each district-size group.

Sample survey design screened 40,000 students; 400 students screened at every sampling point with 33 or 34 students from each grade. One hundred school districts were then selected by systematic sample. Data were collected in six custom-manufactured mobile units which contained sound treated rooms for speech evaluations and hearing tests. Six survey teams collected the data from 100 sampling points. Staff were divided into groups of four. Each member tested hearing for one day, evaluated speech for two consecutive days and tested hearing again on the fourth day.

232.09 **Usefulness**: The selection procedure additionally accounted for proportionate numbers of students in accelerated or special education classes which may have had an inflationary effect on the prevalency estimates.

Reference: Hull, F.M., et al., "National Speech and Hearing Survey," prepared for the DHEW, Bureau of Education for the Handicapped; Fort Collins, Colorado: Colorado State University (March 1976).

234.00 Name of Series/Report: "Natural History of Mental Retardation: Some Aspects of Epidemiology."

234.01 Source/Author: Tarjan et al. (1973).

234.02 Estimation Date: 1949-1951, 1959-1961, 1966-1968.

234.03 Types of Exceptionalities Covered: Mental retardation.

234.04 Quantity Estimated: A prevalence rate of 1% per 100,000 is estimated. Additional rates reported are as follows = 5.11/100,000 for 0-5 years of age; 1.02/100,000 for 6-11 years of age; .70/100,000 for 12-17 years of age; and, .35/100,000 for 18 years of age and older.

234.05 Compatibility of Definitions with PL 94-142: This study deals only with mentally retarded persons who are institutionalized.

234.06 Population Covered: Resident population of Pacific State Hospital. Breakdowns are reported by sex, age, IQ, diagnosis.

234.07 Source: Primary.

234.08 Methodology: Data were compiled from hospital records. Trends in the characteristics of patients in residence, those admitted, released, and deceased within a three-year follow-up period are discussed. In addition, a one percent prevalence rate was used to generate estimated relevance expectations of institutionalization by age and IQ. Admissions to Pacific State Hospital between 1966 and 1968 (831 cases) were normalized to 2,000 cases and divided by the prevalence of mental retardation in a community of 100,000.

234.09 Usefulness: These data are limited to an institutionalized population in one California city. However, they may be useful in conjunction with Jane Mercer's work (Labeling the Mentally Retarded, 1973).

Reference: Tarjan, G., et al., "Natural History of Mental Retardation: Some Aspects of Epidemiology," American Journal of Mental Deficiency, Volume 77, No. 4, pp. 369-378 (January 1973).

236.00 Name of Series/Report: "Speech Disorders and Speech Correction."

236.01 Source/Author: ASHA Committee on the Midcentury White House Conference.

236.02 Estimation Date: Not given.

236.03 Types of Exceptionalities Covered: Functional articulatory, stuttering, voice, cleft palate speech, cerebral palsy speech, retarded speech development, impaired hearing (with speech defect).

236.04 Quantity Estimated: 40,000,000 (assumed total population).

236.05 Compatibility of Definitions with PL 94-142: No definitions given.

236.06 Population Covered: Ages "5-21 years" and "all ages".

236.07 Source: Review.

236.08 Methodology: None mentioned.

236.09 Usefulness: This report is mainly an analysis on the need for reeducating speech pathologists and the need for scientific research in other areas of speech impairment.

Reference: ASHA Committee on the Midcentury White House Conference, "Speech Disorders and Speech Correction," Journal of Speech and Hearing Disorders, pp. 129-137 (1952).

300.00 Name of Series/Report: Wisconsin Estimates of Exceptional Children Being Served.

300.01 Source/Author: Wisconsin Department of Public Instruction

300.02 Estimation Date: Annually, as of February 1; most recent data are from 1973-1974, 1974-1975, 1975-1976.

300.03 Types of Exceptionalities Covered: EMR and TMR, physically/multiply handicapped (including hospital and homebound), speech and language impaired, visually impaired, hearing impaired, special learning disabilities, emotionally disturbed, school-age mothers (12-20).

300.04 Quantity Estimated: For the last three school years, the following estimates of exceptional children being served in Wisconsin were reported:

Est. # of Exceptional Children in WI (K-12)	Est. # and % of Exceptional Children Being Served	Prevalence Estimate
1973-1974 (2/1/74) 104,670	64,803 (61%)	11%
1974-1975 (2/1/75)* 107,176	73,293 (68.4%)	11%
1975-1976 (2/1/76)** 100,852	81,834 (80%)	10.7%

300.05 Compatibility of Definitions with PL 94-142: Categories are not compatible entirely and the reports do not define each category specifically.

300.06 Population Covered: Resident public school-age population in Wisconsin.

300.07 Source: Primary.

300.08 Methodology: Chapter 89, Laws of 1973, was signed into law by Governor Patrick Lucey on August 8, 1973. Persuant to the requirements of s.115.85(3), each LEA is required to submit to the

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* The reports for this year suggested an additional early childhood (three to five years) estimated incidence of five percent.

** Early childhood estimate was included in total.

SEA, annually on or before August 15th, a local plan for special education services and other information that the SEA requires. Specifically, s.115.85(3)(a) requires the following:

- Total number of children residing in the district who have been placed in special education programs, the exceptional educational needs (EEN) of each child and the school attended or special education received by each child.
- Number of EEN children under the age of three who are known to the school district and the needs of each child.

All 435 Wisconsin LEAs are mailed the Special Education Survey Questionnaire each summer. They are asked to complete the survey instrument for the school year just ended and to submit their reports to the Division for Handicapped Children, Wisconsin State Department of Public Instruction. The Division uses the data as input to their next year's February 1 estimates reported to the Federal District Court for the Eastern District of Wisconsin.

300.09 Usefulness: There are some definitional problems, but this survey is conducted annually. No discussion of duplicate counts is presented. Evidently, additional summary data are available on the number and geographic distribution of all reported EEN children. That information on area, county or CESA-wide needs may be obtained from Gary Holloway, Research Analyst in the Department of Public Instruction (phone: 608/266-1029).

References:

"Supplemental Report No. 2 to the Federal District Court for the Eastern District of Wisconsin on Continuing Implementation of Subchapter IV of Chapter 115," Wisconsin State Department of Public Instruction, Madison, Wisconsin (June 1976).

"Supplemental Report to the Federal District Court for the Eastern District of Wisconsin on Continuing Implementation of Chapter 89, Laws of 1973 in School Year 1974-1975," Wisconsin Department of Public Instruction, (March 13, 1975).

"Report to the Federal District Court for the Eastern District of Wisconsin on State/Local Progress in Implementing Chapter 89, Laws of 1973-1974," Wisconsin Department of Public Instruction, (September 1, 1974).

302.00 Name of Series/Report: Nebraska Estimates of Exceptional Children Being Served.

302.01 Source/Author: Nebraska Department of Education

302.02 Estimation Date: 1974-1975; 1975-1976.

302.03 Types of Exceptionalities Covered: Mentally retarded, educable mentally handicapped, acoustically handicapped, speech handicapped, visually handicapped, emotionally disturbed, orthopedically handicapped, specific learning disability.

302.04 Quantity Estimated: For 1974-1975, it was estimated that 25,875 children, or 7.17% of the total school enrollment, were being served by special education programs. In 1975-1976, this figure rose slightly to 26,445 or 7.39% of the total school enrollment.

302.05 Compatibility of Definitions with PL 94-142: Undetermined.

302.06 Population Covered: Public school-age children in Nebraska.

302.07 Source: Primary.

302.08 Methodology: These estimates were derived from a number of sources on the prevalence rates of various handicapping disabilities. The totals represent duplicated counts of the number of handicapped children being served. In general, the Department personnel find that the unduplicated count is about 10% less than the total listed.

302.09 Usefulness: There may be some definitional problems, plus duplicated counts are presented.

Reference: Personal communicaton with John D. Clark, Management Consultant, Planning and Development, Nebraska Department of Education, Lincoln, Nebraska.

304.00 Name of Series/Report: Michigan Estimates of Exceptional Children Being Served.

304.01 Source/Author: Michigan Department of Education.

304.02 Estimation Date: Annually, as of the fourth Friday after Labor Day; most recent data from 1975-1976.

304.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, severely mentally retarded, hearing impaired, speech impaired, visually impaired, emotionally disturbed, physically handicapped, learning disabilities, severely/multiply handicapped, homebound/hospitalized.

304.04 Quantity Estimated: The latest figures indicate that there were 146,946 exceptional children in a population of 2,339,461. The prevalence rate is 6.3%.

304.05 Compatibility of Definitions with PL 94-142: No detailed definitions are given.

304.06 Population Covered: Public and nonpublic school children, K-12 in Michigan.

304.07 Source: Primary

304.08 Methodology: Data are compiled from LEA applications (Form SE-4350) for state special education funds. Children are listed by program assignment. An unduplicated count of pupils receiving special education services is broken down by diagnostic category and age.

304.09 Usefulness: These estimates are conservative since they do not include students enrolling in programs after September 26, 1975.

Reference: Personal contact with Jan M. Baxter, Supervisor, State Assistance for the Handicapped Program, Special Education Services, Michigan State Department of Education, Lansing.

306.00 Name of Series/Report: Special Education Teacher Demand and Supply for Elementary and Secondary Schools in Pennsylvania.

306.01 Source/Author: Pennsylvania Department of Education.

306.02 Estimation Date: 1974-1975.

306.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, severely mentally retarded, hearing impaired, speech and learning impaired, speech and language impaired, visually impaired, socially and emotionally disturbed, physically handicapped, physical therapy, brain injured, gifted, talented, diagnostic/clinical, detention homes, resource room.

306.04 Quantity Estimated: This study reported an estimate of 217,670 exceptional children enrolled in Pennsylvania public schools during the 1974-1975 school year. Based on NCES statistics of the total Pennsylvania public school population (2,277,447) in Fall 1974, a prevalence rate of 9.6% was derived.*

306.05 Compatibility of Definitions with PL 94-142: Not entirely compatible.

306.06 Population Covered: Public elementary and secondary school children in Pennsylvania.

306.07 Source: Primary.

306.08 Methodology: These data were compiled from Commonwealth reimbursement forms, teacher hire forms and pupil enrollment figures from all LEAs and IEUs in the state.

306.09 Usefulness: There are some definitional problems with these data.

Reference: "Special Education Teacher Demand and Supply for Elementary and Secondary Schools in Pennsylvania," Department of Education, Harrisburg, Pennsylvania (June 1975).

"Statistics of Public Elementary and Secondary Day Schools, Fall 1975, Pupils, Staff, Revenues, Expenditures, and Salaries," National Center for Education Statistics, DHEW Publication No. (NCES) 76-145m Education Division, Washington, D.C.: U.S. Government Printing Office (1976).

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* The study had only reported a 7.45% prevalence rate for 1972-1973 and an 8% rate for 1973-1974.

308.00 Name of Series/Report: Indiana Study of Special Education Needs and Programs, Phase I.

308.01 Source/Author: Model Educational Research Center (MERC), February 1975.

308.02 Estimation Date: 1973-1974

308.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, severely/profoundly mentally retarded, physically handicapped, communication handicapped, visually impaired (deaf and hard of hearing), emotionally disturbed, neurologically impaired/learning disabled, multiply handicapped, and other (specify).

308.04 Quantity Estimated: It was estimated, on the basis of data collected from 53% of all public school principals, that 19,061 exceptional children and youths in Indiana needed some kind of special education services, but were not receiving them. Data compiled from 72% of all special education directors and administrators indicated that there were 62,504 exceptional children receiving special education services during the 1973-1974 school year. When compiled with other data, an estimate of 82,815 was derived. Thus, the total estimated exceptional child population in Indiana during 1973-1974 was 101,876. There are breakdowns by age level, stage of testing and identification, regional and community type.

308.05 Compatibility of Definitions with PL 94-142: This study used Indiana's Rule S-1 definitions, but these definitions are not specified in this volume of the report.

308.06 Population Covered: Children enrolled in public and non-public schools. In 1973-1974, total school enrollment was 1,307,187: 1,207,143 in public schools and 100,044 in non-public schools.

308.07 Source: Primary.

308.08 Methodology: A mail questionnaire was designed for principals or guidance counselors of public and non-public schools, as well as for the directors or administrators of special education.

- School Principal Questionnaire--The number of exceptional children not being served within each handicapped category was to be entered in three sub-categories:

  N - those who needed special help but were not referred for testing

  R - those formally referred but not yet approved by case conference

  I - those formally identified by case conference but not placed in the appropriate special education program.

The multiply handicapped category was broken down into several combinations of handicaps. The instrument was pretested in September 1974 in 28 public and five parochial schools in the South La Porte Special Education Cooperative. The questionnaire was revised and finalized for statewide administration to school principals. The principals were asked to complete the form with the assistance, if necessary, of the guidance counselor, school nurse, or other appropriate staff member. Prior to mailing the survey form, cover letter, instructions and Rule S-1 definitions, the state superintendent of Public Instruction sent an introductory letter and a MERC brochure to all school principals encouraging them to cooperate in the study. The questionnaire was mailed on October 1, 1974 to each of 2,570 public, private and parochial school principals in the state. Although follow-up procedures were used, the response rate was only 52.8% for the public schools and 17% for the private.

- Director/Administrator of Special Education Questionnaire--After designing the survey form for this respondent group, the MERC staff had a few directors of special education review them. The final version had columns for the numbers of exceptional children served and by age level and by the type of program offered (e.g., special class full time, resource center, itinerant teachers, etc.). The questionnaire was mailed to 93 administrators on October 7, 1974. Follow-up procedures were used and the response was 72%.

In projecting the number of exceptional children needing to be served in Indiana, MERC took the number of students reported by the public schools in each handicapping category (by age level and stage of testing and identification), divided it by the enrollment of that age level in the reporting schools to determine percentage of incidence of that condition, then multiplied by the total enrollment of that age level in all Indiana public schools. Indiana Department of Public Instruction school enrollment data were used. The estimates were projected directly for the state, as well as for four regions (northern, north-central, central and southern) and five community types (urban, suburban, small city, large town, and rural).

308.09 Usefulness: The response rate for the school principals was low, but the study could be helpful. There is an addendum that discusses the problems of estimating prevalence of exceptionalities in youth and presents other estimates for 1973-1974 based on the prevalence percentages used by Rossmiller (1970), BEH, and the Division of Special Education, Indiana Department of Public Instruction. The authors note that their figures are the lowest set of estimates.

Reference: "Indiana Study of Special Education Need and Programs Phase I Report, Volume I," La Porte, Indiana: Model Educational Research Center (February 1975).

310.00 Name of Series/Report: A Study of the Status of Educational Services for the Handicapped in the State of Minnesota.

310.01 Source: Educational Management Services, Inc. (EMS).

310.02 Estimation Date: 1973-1974

310.03 Types of Exceptionalities Covered: Educable and trainable mentally retarded, hearing impaired, speech impaired, visually impaired, special learning and behavioral problems, physically handicapped, homebound and hospitalized.

310.04 Quantity Estimated: The study cited 78,014 handicapped children being served by special education programs. This number represents 7.69% of the total school-age population, ages 5-17 (July 1, 1973).

310.05 Compatibility of Definitions with PL 94-142: Not entirely compatible.

310.06 Population Covered: School-age children in Minnesota.

310.07 Source: Primary.

310.08 Methodology: The study design was composed of four phases. During Phase I, the current status of educational services for the handicapped in the state were inventoried and profiled. Existing data from various statewide, regional and LEAs were utilized. A structured sampling of LEAs by region aided the data collection. The determination of direct and indirect program expenditures were used to determine costs. In Phase II, the focus was on identifying the needs of the handicapped; ascertaining the numbers for whom services were needed but not provided; determining the quality of services; and, projecting increased costs based upon current costs at the time. A major component of Phase II was a mail survey of more than 1,000 parents of handicapped children being served. Personal interviews were also conducted with personnel from various state and local organizations concerned with exceptional children. An attempt was made during Phase III to assess the effectiveness of inter-agency coordination among agencies providing services to the handicapped, as well as to identify the major barriers to providing needed services. The final phase focused on the identification of alternatives and possible implementation strategies for the improved delivery of special education services.

310.09 Usefulness: The data are not current and they represent the number of children being served. In addition, there is some definitional inconsistency and no breakdown by age, range, or other demographic characteristics are available.

Reference: "A Study of the Status of Educational Services for the Handicapped in the State of Minnesota," Minneapolis, Minnesota: Educational Management Services, Inc. (December 1975).

312.00 Name of Series/Report: Programmatic Cost Differentials in Delaware School Districts.

312.01 Source/Author: Richard Rossmiller and Thomas Moran.

312.02 Estimation Date: 1970-1971.

312.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, orthopedically handicapped, blind and partially sighted, hearing impaired, socially and emotionally maladjusted, learning disabilities, speech handicaps.

312.04 Quantity Estimated: 8.28% of the public school population of 128,880 pupils in Delaware.

312.05 Compatibility of Definitions with PL 94-142: Not available.

312.06 Population Covered: Public school population (K-12) served and eligible children who need special education.

312.07 Source: Primary.

312.08 Methodology: Estimates were derived from enrollment figures and other data collected from the 26 school districts in Delaware.

312.09 Usefulness: Lacks prevalence estimates of the handicapped population and deals with the cost factors of educating the handicapped in Delaware.

Reference: Rossmiller, R.A., and T. Moran, "Programmatic Cost Differentials in Delaware School Districts," prepared for Delaware State Board of Education and DHEW, Office of Education; Gainsville, Florida: National Educational Finance Project (1973).

314.00 Name of Series/Report: An Educational Needs Study Report Related to Incidence of Exceptionality: A Prelude to Planning Special Educational Services in New Mexico.

314.01 Source/Author: State Department of Education.

314.02 Estimation Date: Spring 1973.

314.03 Types of Exceptionalities Covered: Mentally retarded, physically handicapped, speech impaired, visually impaired, hearing impaired, learning disabled, emotionally handicapped, gifted, multiply handicapped.

314.04 Quantity Estimated: Projected number of exceptional children in New Mexico public school population is 80,854 or 29.03% of the population.

314.05 Compatibility of Definitions with PL 94-142: Not entirely compatible since New Mexico's definition of exceptional children includes gifted.

314.06 Population Covered: Public school-age children in New Mexico in grades 1 through 12.

314.07 Source: Primary.

314.08 Methodology: A survey of local school administrations, nurses, clinicians, and diagnosticians was conducted. A stratified random sample was used. The stratification factors were as follows: size of school district, geographic location, income level in community served, and ethnic composition of the student body. All school districts were first considered based on average daily membership (ADM). Two districts in different geographical locations were selected from each of the nine categories. There were two exceptions to paired representative districts. Albuquerque was automatically included as the only district in the "20,000 and over ADM Category," and no combination of districts in the "5,000 to 9,999 ADM Category" closely matched total category characteristics. Therefore, Carlsbad alone was selected as most representative. A 25% sample was then drawn from the 16 school districts. The number of children to be drawn was calculated by multiplying the total ADM of all districts in each category by .0025 to find the number to be included from that category and then prorating that number around the representative districts according to the ratio of their ADMs. The number of children from each district was further increased by 11%. A computer-generated list of 774 members was then matched with names on the ADM rosters in each district, and the corresponding children were selected. The ethnic distributon of the total sample was as follows: 40.3%, Mexican American, 8.3% Indian; and, 51.2%, Other. There is no discussion of duplicated

counting, but categorical definitions and classification criteria were defined specifically.

314.09 Usefulness: No reliability statistics are reported, but some comparisons of the representativeness of the sample populations were made. For example, it was noted that the data regarding language spoken in the homes of the sample children was compatible with statewide ethnic composition studies.

Reference: "An Educational Needs Study Report Related to Incidence of Exceptionality, A Prelude to Planning Special Education Services in New Mexico," State Department of Education, Santa Fe, New Mexico (November 1973).

316.00 Name of Series/Report: A Study of Exceptional Children in Idaho Special Education Needs Assessment Study.

316.01 Source/Author: Judy A. Schrag, Idaho State Department of Education, June 1974.

316.02 Estimation Date: Spring 1973.

316.03 Types of Exceptionality Covered: Emotionally mentally retarded, trainable mentally retarded, physically handicapped, speech impaired, visually handicapped, auditory handicapped (deaf and hard of hearing), specific learning disabled, emotionally handicapped, academically talented, multiply handicapped.

316.04 Quantity Estimated: Projected number of exceptional children in Idaho school-age population is 28,367 or 15.21% of the population.

316.05 Compatibility of Definitions with PL 94-142: Not entirely compatible since Idaho's definition of exceptional children includes academically talented.

316.06 Population Covered: School-age children in Idaho between ages 9 and 11.

316.07 Source: Primary.

316.08 Methodology: A survey of local school superintendents and school district personnel was conducted. The study utilized a stratified, random sampling procedure further refined by cross-section age range within 60 sample districts. The final sample size was 22,020 children or 12% of the total school-age population. Although double counting is not specifically addressed, it is noted that a child with more than one handicapping condition would be counted as multiply handicapped.

316.09 Usefulness: Using a .01 level of confidence, the percentage of reliability was found to be ±.45 for the state estimate. However, regional reliabilities varied from ±.83 to ±2.14.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, University of Utah (June 1974).

318.00 Name of Series/Report: Colorado Report on Study of Learning Disabilities.

318.01 Source/Author: Colorado Department of Education (1973).

318.02 Estimation Date: October 2, 1972.

318.03 Types of Exceptionalities Covered: Mental retardation (significant limited intellectual functioning), hearing impaired, speech impaired, visually impaired, emotionally disturbed (significant identifiable emotional), physically handicapped (physical handicap or illness), learning disabled (identifiable perceptual or communicative).

318.04 Quantity Estimated: This study identified 89,580 children served and not served by special education services. From the estimated 1972-1973 public school year enrollment of 574,239, a prevalence rate of 15.60% was estimated.

318.05 Compatibility of Definitions with PL 94-142: The definitions used in this study were developed by various professional personnel in the field of special education. The categories represented an attempt to classify disabilities in terms of the learning process. They are not entirely compatible with those of BEH.

318.06 Population Covered: Children, ages 3 to 21, enrolled in public elementary and secondary schools in Colorado on October 2, 1972.

318.07 Source: Primary.

318.08 Methodology: The Colorado estimates are based on the following:

- A census conducted by principals and other administrators to determine the number of children with physical, vision, and hearing handicaps.
- A study conducted by school psychologists of a random sample of the population to determine the number of children with limited intellectual functioning, identifiable emotional, and identifiable perceptual or communicative handicaps. The study sample included children who had been identified by teachers as showing indications of learning handicaps.
- A screening of children at selected grade levels conducted by speech correctionists to determine the number of children with speech handicaps.

318.09 Usefulness: The estimates are limited to children enrolled in public schools. There are also definitional problems.

Reference: "Report on Study of Learning Disabilities," Colorado Department of Education, Denver, Colorado (January 1973).

320.00 Name of Series/Report: North Dakota Estimates of Exceptional Children.

320.01 Source/Author: As cited by Judy Schrag in "A Study of Exceptional Children in Idaho."

320.02 Estimation Date: 1972-1973.

320.03 Types of Exceptionalities Covered: Visually handicapped, aurally impaired, crippled/orthopedically handicapped, speech handicapped, specific health impairment, emotionally disturbed/socially maladjusted, mentally retarded, learning disability.

320.04 Quantity Estimated: An estimate of 18.43% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

320.05 Compatibility of Definitions with PL 94-142: Not available.

320.06 Population Covered: School-age children.

320.07 Source: Not available.

320.08 Methodology: Not available.

320.09 Usefulness: Not available.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, University of Utah (June 1974).

322.00 Name of Series/Report: Alabama Estimates of Exceptional Children.

322.01 Source/Author: As cited by Judy Schrag in "A Study of Exceptional Children in Idaho."

322.02 Estimation Date: 1972.

322.03 Types of Exceptionalities Covered: Visually handicapped, blind, aurally impaired, crippled/orthopedically handicapped, speech handicap, specific health impairment, emotionally disturbed/ socially maladjusted, mentally retarded, learning disability.

322.04 Quantity Estimated: An estimate of 13.73% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

322.05 Compatibility of Definitions with PL 94-142: Not available.

322.06 Population Covered: School-age children.

322.07 Source: Not available.

322.08 Methodology: Not available.

322.09 Usefulness: Not available.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, Universtiy of Utah (June 1974).

324.00 Name of Series/Report: Northeast Minnesota Estimates of Exceptional Children.

324.01 Source/Author: As cited by Judy Schrag in "A Study of Exceptional Children in Idaho."

324.02 Estimation Date: 1972.

324.03 Types of Exceptionalities Covered: Visually handicapped, aurally impaired, speech handicap, emotionally disturbed/socially maladjusted, educable retarded, trainable retarded, learning disability, physically handicapped.

324.04 Quantity Estimated: An estimate of 10.77-11.77% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

324.05 Compatibility of Definitions with PL 94-142: Not available.

324.06 Population Covered: School-age children.

324.07 Source: Not available.

324.08 Methodology: Not available.

324.09 Usefulness: Not available.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, University of Utah (June 1974).

326.00 Name of Series/Report: Utah Estimates of Exceptional Children.

326.01 Source/Author: As cited by Judy Schrag in "A Study of Exceptional Children in Idaho."

326.02 Estmation Date: 1972.

326.03 Types of Exceptionalities Covered: Visually handicapped, deaf, hard-of-hearing, crippled/orthopedically handicapped, speech handicap, emotionally disturbed/socially maladjusted, educable retarded, trainable retarded, learning disability, physically handicapped, deaf and blind (multiply handicapped).

326.04 Quantity Estimated: An estimate of 16.892% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

326.05 Compatibility of Definitions with PL 94-142: Not available.

326.06 Population Covered: School-age children.

326.07 Source: Not available.

326.08 Methodology: Not available.

326.09 Usefulness: Not available.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, University of Utah (June 1974).

328.00 Name of Series/Report: Identifying Preschoolers with Special Needs: A County-Wide Project to Help Plan Future Special Services in the Public Schools.

328.01 Source/Author: Sower and Covert (1975)

328.02 Estimation Date: 1970-1971, 1971-1972.

328.03 Types of Exceptionalities Covered: Mentally retarded, physically handicapped, speech impaired, visually impaired, hearing impaired, emotionally disturbed, brain injured, multiply handicapped.

328.04 Quantity Estimated: This study estimated that there were 492 children not yet in public school in 1971-1972. The incidence rate was 48 per 1000 in 1970-1971.

328.05 Compatibility of Definitions with PL 94-142: The only specific learning disability included in this study was brain injury.

328.06 Population Covered: Montgomery County handicapped children not yet in school from birth to age 21 years.

328.07 Source: Primary for 1971-1972 prevalence; secondary source for 1970-1971 incidence.

328.08 Methodology: Health and welfare agencies, schools, and professionals who might serve handicapped children were contacted by direct personal contact, mail, phone and/or letters. In addition, an extensive effort was made to reach parents by the use of media coverage, as well as by speeches to parent, civic, welfare and professional groups. The project staff members also spoke at medical staff meetings and ministerial association meetings. Letters and forms were sent to physicians, schools and agencies asking them to supply lists of handicapped children. Brochures were designed for parents and were distributed through physicians, agencies, ministers and schools. For the purposes of this project, the preschool handicapped population was defined as all those from birth to six years of age with handicapped conditions (as defined by the researchers), including multiply handicapped children. To serve LEA needs, the definition of preschoolers was extended to include "all those not yet in school." Therefore, the survey collected data on the following:

- Mentally retarded children who were over six years of age and not in school.
- Children over six who were attending special private preschool programs.
- Children over six in programs not approved for funding by Pennsylvania Department of Education.

The base data included a child's name, address, age, nature of handicap and source of information, as well as an indication of whether or not the child was in a preschool program.

328.09 Usefulness: The authors noted that an important source of bias is the fact that survey statistics did not include the following: those children not reported to an agency, those who had not had professional help, and those whose parents chose not to respond to (or were unaware of) the public information drive. The survey results suggest that the method utilized did under report the number of preschool handicapped children in Montgomery County. Moreover, it is noted that some handicapping conditions cannot be adequately diagnosed before school age.

Reference: Sower, R., and R. Covert, "Identifying Preschoolers with Special Needs: A County-Wide Project to Help Plan Future Special Services in the Public Schools," Education and Training of the Mentally Retarded, Volume 10, No. 2, pp. 84-90 (April 1975).

330.00 Name of Series/Report: Kentucky Estimates of Exceptional Children.

330.01 Source/Author: As cited by Judy Schrag in "A Study of Exceptional Children in Idaho."

330.02 Estimation Date: 1971.

330.03 Types of Exceptionalities Covered: Visually handicapped, aurally impaired, speech handicap, emotionally disturbed/ socially maladjusted, gifted, mentally retarded, educable retarded, trainable retarded, learning disability, physically handicapped, multiply handicapped.

330.04 Quantity Estimated: An estimate of 6.95% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

330.05 Compatibility of Definitions with PL 94-142: Not available.

330.06 Population Covered: School-age children.

330.07 Source: Not available.

330.08 Methodology: Not available.

330.09 Usefulness: Not available.

Reference: Schrag, J.A., "A Study of Exceptional Children in Idaho," prepared for DHEW, Bureau of Education for the Handicapped; Rocky Mountain Regional Resource Center, University of Utah (June 1974).

332.00 Name of Series/Report: Special Education Program Needs, South Central Minnesota.

332.01 Source/Author: Educational Management Services, Inc. (EMS).

332.02 Estimation Date: 1969-1970.

332.03 Types of Exceptionalities Covered: Emotionally and trainable mentally retarded, hearing impaired (deaf and hard of hearing), speech handicapped, visually impaired (blind and partially sighted), emotionally disturbed/socially maladjusted (including learning disabled), physically handicapped (orthopedically handicapped and health impaired).

332.04 Quantity Estimated: Two sets of prevalence estimates are given. The overall rates are 5.68% and 10.49%.

332.05 Compatibility of Definitions with PL 94-142: Not entirely compatible.

332.06 Population Covered. Two LEA area cooperatives in South Central Minnesota with base populations of 11,750 and 9,000 pupils.

332.07 Source: Primary

332.08 Methodology: This study, funded by Title VI-ESEA, focused on the need for long range planning of special education services, as well as interdistrict cooperation for special education programs. Thirteen southern Minnesota school districts participated in the study. Interviews were conducted in each district to gather data on current special education programs and projected needs. Enrollment data were also collected. Enrollment projections were generated based upon historical trends using a cohort survival ratio method. Gross estimations were made of the number of students that will need to be served by special education programs, as well as the kinds of specific disabilities that such students will have. The enrollment projections were then applied against prevalence figures obtained from USOE figures (early 1960s) and from a Northeastern Minnesota Study. Thus, prevalence estimates are reported using both sources.

332.09 Usefulness: The study team states that they believe the true prevalence figures in the Albert Lea-Austin area to fall somewhere between the USOE and Northeast Study estimates. It is noted that the USOE figures are national in scope and tend to be inflated for certain handicapping conditions. For example, data on the physically handicapped were collected at a time when polio was a severe problem. The Northeast Study, based upon a student population of approximately 87,500, obtained estimates that tend to be low in some categories. Due to the reluctance to classify children as emotionally disturbed/socially maladusted, figures are particularly low for this category.

Reference: "Special Education Program Needs, South Central Minnesota," New Brighton, Minnesota: Educational Management Services, Inc. (April 1970).

334.00 Name of Series/Report: Wisconsin Estimates of Exceptional Children.

334.01 Source/Author: As cited by Richard Rossmiller in Educational Programs for Exceptional Children: Resource Configurations and Costs.

334.02 Estimation Date: 1969-1970.

334.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, auditorily handicapped, visually handicapped, speech handicapped, physically handicapped, neurological and special learning disorders, emotionally disturbed, multiple handicapped.

334.04 Quantity Estimated: An estimate of 4.103% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

334.05 Compatibility of Definitions with PL 94-142: Not available.

334.06 Population Covered: Not available.

334.07 Source: Not available.

334.08 Methodology: Not available.

334.09 Usefulness: Not available.

Reference: Rossmiller, R.A., J. Hale, and L. Frohreich, Educational Programs for Exceptional Children: Resource Configurations and Costs, Madison, Wisconsin: The University of Wisconsin (1970).

336.00 Name of Series/Report: California Estimates of Exceptional Children.

336.01 Source/Author: As cited by Richard Rossmiller in Educational Programs for Exceptional Children: Resource Configurations and Costs.

336.02 Estimation Date: 1968.

336.03 Types of Exceptionalities Covered: Educable mentally retarded, trainable mentally retarded, auditorily handicapped, visually handicapped, speech handicapped, physically handicapped, neurological and special learning disorders, multiple handicapped.

336.04 Quantity Estimated: An estimate of 4.215% was reported for the state, but it is unclear if the estimate reflects prevalence of handicapped children or the population served.

336.05 Compatibility of Definitions with PL 94-142: Not available.

336.06 Population Covered: Not available.

336.07 Source: Not available.

336.08 Methodology: Not available.

336.09 Usefulness: Not available.

Reference: Rossmiller, R.A., J. Hale, and L. Frohreich, Educational Programs for Exceptional Children: Resource Configurations and Cost dison, Wisconsin: The University of Wisconsin (1970).

338.00 Name of Series/Report: The Report of the Study on the Educational Needs of Physically Handicapped Children in Pittsburgh, Pennsylvania, 1958-1959, Prevalence Study.

338.01 Source/Author: Maurice Fouracre et al., "The Report of the Study on the Educational Needs of Physically Handicapped Children in Pittsburgh, Pennsylvania 1958-1959," Pittsburgh: School of Education, University of Pittsburgh, July 1961.

338.02 Estimation Date: November 1958.

338.03 Types of Exceptionalities Covered: Mentally retarded, physically handicapped (crippling including cerebral palsy), speech impaired, visually handicapped, hearing impaired, emotionally handicapped, special health problems (including cardiac conditions, asthma, seizures, diabetes).

338.04 Quantity Estimated: Projected number of handicapped school-enrolled children in the City of Pittsburgh is a total of 11,940 or 9.67%. For public schools, the rate is 12.6% or 9,005 children; in the Catholic parochial schools the rate is 5.6% or 2,935 handicapped children.

338.05 Compatibility of Definitions with PL 94-142: The Pittsburgh study's definition of exceptional children did not include learning disabilities or multiply handicapped.

338.06 Population Covered: Public and Catholic parochial school children in the City of Pittsburgh, K-12. Breakouts by SES, sex, age, race, are presented.

338.07 Source: Primary.

338.08 Methodology: A survey of public and Catholic parochial school teachers was conducted. Slightly more than a 10% sample was selected. The City was divided into socioeconomic areas: high, middle, and low. Factors taken into consideration were: type of employment, family income, parents' education, type of housing, mobility and stability of the residents, number of children continuing their education and IQs of school pupils. On the basis of the geographical distribution, 12 public and nine Catholic parochial schools were selected for inclusion in the sample for the prevalence study. The pupil population in the sample schools was 13,764.

Every teacher in the sample schools was asked to complete a questionnaire for each child whom he/she considered to have any type of physical, mental or emotional handicap, using his/her own knowledge and records as well as working cooperatively with public health nurses serving their schools. During the study,

the Allegheny County Department of Public Health contributed the resources of nurses and nursing supervisors to enable the principal, teachers and nurse in each school to work together on an identification team.

338.09 Usefulness: Basically, this is a nonmedically confirmed prevalence study. Teachers were provided with a list of physical and behavioral symptoms related to various handicapping conditions. However, the data are based on teachers' observations. The authors also note that the number of children not enrolled in school at the time of the study could have a substantial effect upon a city-wide projection of prevalence of handicapping conditions. Moreover, it is indicated that, in some categories of disability, a sampling of about 11% of the total school enrollment produced such small numbers that it was difficult to get reliable estimates of prevalence for a total city child population.

Reference: Fouracre, M.H., M. Rooke, and P. Botwin, "The Report of the Study on the Educational Needs of Physically Handicapped Children in Pittsburgh, Pennsylvania, 1958-1959," Prevalence Study, School of Education, University of Pittsburgh, Pittsburgh, Pennsylvania (July 1961).

400.00 Name of Series/Report: "Epidemiology of Severe Mental Retardation in Children: Community Studies."

400.01 Source/Author: Helen Abramowicz and Stephen Richardson.

400.02 Estimation Date: 1936-1965.

400.03 Types of Exceptionalities Covered: Severe mental retardation.

400.04 Quantity Estimated: Not available.

400.05 Compatibility of Definitions with PL 94-142: Severe mental retardation defined as having an IQ of less than 50.

400.06 Population Covered: 0-20 year olds.

400.07 Source: Review of literature.

400.08 Methodology: Authors reviewed literature on severely mentally retarded children. They limited their review to children with an IQ of less than 50. Studies reviewed include several generated by different countries. Summary discussions on the definitions, reliability of prevalence data and the methodology used are presented in a table. General conclusions are made as to the prevalence of mental retardation in the world. However, seven studies are cited which were done in the United States (Oregon, 1962; Baltimore, 1936; New York State, 1965; Maine, 1967; Onondaga County, 1953; Georgia, 1964; Alamance County, North Carolina, 1964).

400.09 Usefulness: Authors judged the Oregon study to be reliable, but warns the reader that the remaining studies are of questionable or unknown reliability.

Reference: Abramowicz, H.K., and S. Richardson, "Epidemiology of Severe Mental Retardation in Children: Community Studies," American Journal of Mental Deficiency, Volume 80, No. 1, pp. 18-39 (1975).

402.00 Name of Series/Report: "Ethnicity, Geographic Locale, Age, Sex, and Urban-Rural Residence as Variables in the Prevalence of Mild Retardation." (Pima County, Arizona)

402.01 Source/Author: Reschly and Jipson (1976).

402.02 Estimation Date: Winter 1974.

402.03 Types of Exceptionalities Covered: Mild mental retardation (educable mental retardation).

402.04 Quantity Estimated: At the ≤ 69 WISC-R IQ cutoff score, there was a prevalence rate of 6.25% for the verbal subscore. A 1.68% prevalence rate occurred for Performance and for the Full-Scale, it was 3.53%. At the ≤ 75 IQ cutoff score, a 12.3% prevalence rate appeared for Verbal. For Performance, the rate was 4.5% and for the Full-Scale, it was 7.5%.

402.05 Compatibility of Definitions with PL 94-142: This study defined mental retardation as IQ scores ≤ 69 or ≤ 75. Deficits in adaptive behavior were not included in the diagnosis.

402.06 Population Covered: IQ scores were obtained for 950 of the original sample of 1,040 children. Breakdowns by ethnicity, age, sex, geographic locale, and urban-rural residence are reported.

402.07 Source: Primary.

402.08 Methodology: The Pima County Special Services Cooperative was authorized by the Division of Special Education, Arizona Department of Education to conduct a prevalence study. The objectives of the study were to examine overall prevalence and subgroup differences in prevalence of mental retardation. Therefore, equal rather than proportionally representative numbers of children from the various subgroups were chosen. A stratified random sample of 1,040 children was drawn with equal numbers from each ethnic group (Anglo, Black, Mexican-American, and Papago Indian with N=260 per group), grade levels (1st, 3rd, 5th, 7th and 9th), sex, and urban-rural residence. However, the low proportion of rural Blacks and urban Indians led to an entire Black sample being urban and an entire Papago Indian sample being rural.

School district authorities in Pima County were contacted and their cooperation was requested. To select the sample, enrollment rosters that included children in both regular and special education programs were used. Ethnicity was determined by school data or by contacting parents. Metropolitan Tucson school districts were considered to be urban, and outlying

districts; 25 miles or more from Tucson were regarded as rural. Parents of the sample children were contacted to explain the nature of the study and to solicit written permission. If parents refused to have their child participate, another child was randomly selected and the process repeated.

Appointments were then made with school officials for the administration of the WISC-R. Standard procedures for administration of the WISC-R were followed. WISC-R scores were obtained for 950 of the original sample of 1,040 children.

402.09 Usefulness: The Pima County prevalence estimates exceeded the national estimates (2.3% and 4.7% corresponding to the IQ cutoff points of ≤ 69 and ≤ 75) for Verbal and Full-Scale IQ at both IQ cutoff scores. The authors noted that their results were only partially consistent with the previously reported literature on the prevalence of mental retardation. Previous generalizations about geographic locale and ethnicity are supported by the Pima Co. data. At the ≤ 69 IQ cutoff, significant urban-rural differences were found for Mexican-Americans as compared with Anglos. The cutoff score of ≤ 75 produced dramatic differences among the ethnic groups with higher prevalence rates for minorities. Generalizations concerning age and sex were largely unconfirmed. A general trend in the data was toward increasing prevalence through the fifth grade, then declining prevalence in seventh and ninth grades. However, the trends were nonsignificant in the overall chi-square analysis of the data. The prevalence of mild mental retardation was not higher among males.

Reference: Reschly, D.J., and F. Jipson, "Ethnicity, Geographic Locale, Age, Sex, and Urban-Rural Residence as Variables in the Prevalence of Mild Retardation," American Journal of Mental Deficiency, Volume 82, No. 2, pp. 154-161 (September 1976).

404.00 Name of Series/Report: "Prevalence Survey of Severely Mentally Retarded in Wyandotte County, Kansas."

404.01 Source/Author: James S. Payne.

404.02 Estimation Date: Unclear.

404.03 Types of Exceptionalities Covered: Severe mental retardation (SMR).

404.04 Quantity Estimated: Data were reported for 482 families having an SMR individual. Incidence rates were as follows:

Age	Incidence (per thousand)
0- 5	1.39
5-19	5.94
20+	1.13

404.05 Compatibility of Definitions with PL 94-142: This study deals with only SMRs. SMR individuals were defined as persons whose IQs were 50 and below. However, mongoloids who were less than five years of age without an IQ score were also included in the survey.

404.06 Population Covered:

- Individuals who had been previously diagnosed as SMR by qualified psychologist or psychometrist to have IQs of 50 or below.
- Individuals or their parents who resided in Wyandotte County at the time of the survey.
- Individuals or their parents who agreed to be interviewed.
- Individuals who were living at the time of the survey.

Breakouts were reported for age, sex and race.

404.07 Source: Primary.

404.08 Methodology:

- Phase I -- Letters were sent to agencies informing them of the proposed survey and asking them to participate. If agencies could not cooperate directly with the researchers by means of furnishing names, addresses and telephone numbers of SMR persons, they were requested to suggest other agencies that might participate.

- Phase II -- Agencies that agreed to cooperate with the study were contacted in person to obtain vital data such as the SMR's name, address, telephone numbers and IQ score.
- Phase III -- Having received adequate information on an SMR, the surveyor personally interviewed SRM's and/or their parents in their homes. Additional handicaps were reported, so 22% of the indivduals were classified as only severely mentally retarded.

404.09 Usefulness: The author notes that there were many uncontrolled variables in this study. A referral prevalence rather than a true prevalence was reported. Some inadequacies of the survey are as follows:

- SMR persons residing in Wyandotte County who had not been seen by a diagnostic agency were excluded. Persons who resided in the county but who had been diagnosed outside of the county and were not known by a county agency were also not included in the study.
- Refusal of parents to give agency permission to refer SMR individual to survey of staff. The majority of the agencies did not refer any SMR's until parental permission had been secured. There is no determination of how many parents did not respond to the request for permission.

Despite their inadequacies, the author indicates that he believes the prevalence of school age level SMR's is fairly accurate for two reasons:

- All LEAs in the county sponsored the project and they did not have to receive parental permission before referring an SMR for survey purposes.
- Local schools usually known children who are this severely handicapped.

Reference: Payne, J.S., "Prevalence Survey of Severely Mentally Retarded in Wyandotte County, Kansas," Training School Bulletin, Volume 67, No. 4, pp. 220-227 (1971).

406.00 Name of Series/Report: Statistics on Blindness in the Model Reporting Area (MRA).

406.01 Source/Author: Kahn and Moorhead (1973).

406.02 Estimation Date: 1969-1970; some statistics reported for 1962-1970.

406.03 Types of Exceptionalities Covered: Visually handicapped.

406.04 Quantity Estimated: 95,553 persons for 1969; 99,347 persons for 1970. The reported rate for the 1970 total MRA is 162 per 100,000.

406.05 Compatibility of Definitions with PL 94-142: Blindness was defined as distance vision of 20/200 or worse with best correction using ordinary lenses or a visual field limited to 20 degrees at the widest part.

406.06 Population Covered: Registered blind persons in 16 states as of December 31: Connecticut, Georgia, Kansas, Louisiana, Massachusetts, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oregon, Rhode Island, South Dakota, Utah, Vermont, Virginia. There are breakdowns by age, race and sex.

406.07 Source: Primary.

406.08 Methodology: The basic source of data is the registration of blind persons with the appropriate state agency. These data are compiled by the Model Reporting Area for Blindness Statistics, a voluntary association of states that have agreed to uniform definitions and procedures to improve the uniformity and reliability of data on blind persons. States obtained admission to the MRA if they:

- Coded the cause of blindness according to established rule.
- Maintained a register review in order to remove cases that had recovered sight, died, or left the area.
- Collected and reported various associated data according to established procedures.
- Used the definition of blindness previously noted.

406.09 Usefulness: It is noted that the strength of the MRA data lies in their uniformity. However, the weakness of these data relates to the incomplete registration of blind persons and probable variability in degree of completeness among states, racial groups, age classes and diagnostic categories. Although no estimates of MRA registration completeness are available,

some data may represent a very substantial proportion of the total. For example, a survey of hospital records from five New York City hospitals identified 203 legally blind persons. Of this total, 153 were not included in the New York State Register. Potential users of the data are cautioned that the data arise under varying administrative and clerical procedures that differ from state to state. Therefore, the data do not necessarily agree with the actual distribution of the blind population for the variables presented.

Reference: Kahn, H.A., and H. Moorhead, Statistics on Blindness in the Model Reporting Area, 1969-1970, DHEW Publication No. (NIH) 73-427, Washington, D.C.: U.S. Government Printing Office (1973).

408.00 Name of Series/Report: "Preliminary Results of a Field Epidemiologic Study."

408.01 Source/Author: Imre as cited by Ronald W. Conley in The Economics of Mental Retardation.

408.02 Estimation Date: 1965.

408.03 Types of Exceptionalities Covered: Mentally retarded.

408.04 Quantity Estimated: Prevalence rates using an IQ of 69 or less as the criterion were estimated for the following categories of socioeconomic status and race:

Socioeconomic Status		Race	
		White	Nonwhite
(High)	1-3	.64	8.53
	4	1.89	11.14
(Low)	5	4.93	17.45

Prevalence rates were also estimated for the following categories of age and race:

Age	Race	
	White	Nonwhite
1-4	2.45	10.95
5-9	2.33	12.03
10-14	1.60	14.55
15-19	1.55	19.46
20-34	1.85	16.17

408.05 Compatibility of Definitions with PL 94-142: Compatible with Act.

408.06 Population Covered: Children 5-19 years in an unidentified Maryland county.

408.07 Source: Not available.

408.08 Methodology: Not available.

408.09 Usefulness: Not available.

Reference: Conley, R.W., The Economics of Mental Retardation, Baltimore, Maryland: Johns Hopkins University Press (1973).

410.00 Name of Series/Report: "The Ecology of Retardation: Two Views," (Riverside Community Study).

410.01 Source/Author: McAllister, Lei and Butler (1974).

410.02 Estimation Date: 1963.

410.03 Types of Exceptionalities Covered: Mental retardation.

410.04 Quantity Estimated: The overall prevalence rates for the community of Riverside, California were 16.9% for intellectual handicaps and 11.4% for behavioral retardation (adaptive behavior). Rates by ecological areas (1960 census tract divisions) were highly variable for each of the impairment types, ranging from a low of 2.1% to a high of 57.4%.

410.05 Compatibility of Definitions with PL 94-142: Mental retardation is broken down by intellectual handicap and behavioral retardation (adaptive behavior).

410.06 Population Covered: Resident population (approximately 100,000) of Riverside, California.

410.07 Source: Review and discussion of Mercer et al. study.

410.08 Methodology: A 10% sample of households was selected on a random-stratified geographic and socioeconomic basis. A total of 2,661 households and 8,750 residents were interviewed. Each person in the household was screened for evidence of intellectual impairment and behavioral retardation. The former was determined by individually administered IQ tests in the home, but in some cases, by group IQ test scores obtained from the school district. Due to the high cost of individual test administration, only about 10% of the sample (1% of the city's total population) were given individual IQ tests. For the purposes of this discussion of the Riverside community study, a person with a score of less than 85 was categorized as intellectually impaired. Behavioral retardation was measured by a variety of adaptive behavior items derived from such measures as the Vineland Social Maturity Scale and Gessell Development Scales.

410.09 Usefulness: This study does not appear to be particularly useful.

Reference: McAllister, R.J., T. Lei, and E. Butler, "The Ecology of Retardation: Two Views," Social Science and Medicine, Volume 8, pp. 585-589 (1974).

Mercer, J.R., Labeling the Mentally Retarded, Berkeley, California: University of California Press (1973).

412.00 Name of Series/Report: "A Prevalence Study of Mental Retardation in a Metropolitan Area: (Onondaga County, New York).

412.01 Source/Author: Goodman et al. (1956).

412.02 Estimation Date: March 1, 1953.

412.03 Types of Exceptionalities Covered: Mental retardation.

412.04 Quantity Estimated: The study estimated 3789 mentally retarded children or a rate of 35.2 cases per 1,000 estimated population.

412.05 Compatibility of Definitions with PL 94-142: Children were defined as mentally retarded if they had been so diagnosed or if they were suspected of mental retardation on the basis of developmental history, poor academic performance, IQ score, or social adaptation when contrasted with the performance of their age mates.

412.06 Population Covered: Residents of Onondaga County, birth to 18 years old on March, 1953. Breakdowns by age, race, and sex.

412.07 Source: Primary.

412.08 Methodology: Study team members visited all community agencies in the county dealing with children and the New York State schools. Their staffs were acquainted with the purpose and method of the study. Forty private or public social and health agencies, 103 schools, and 494 physicians were contacted. Included in this group were child treatment agencies, state schools for the mentally retarded, and parent groups concerned with retarded children.

Each agency compiled a roster of all children they considered mentally retarded and categorized the children as: "known" when adequate clinical evidence was available, or "suspect" because of lack of adequate diagnostic facilities. Unless an associated mental retardation was demonstrable, children who were considered essentially behavior problems were not included. A voter form for recording individual case information was developed. When more than one agency had information on an individual, the data were consolidated. All data were collected from child serving personnel and their records.

412.09 Usefulness: The author acknowledged that their single case definition varied with the working definition of the reporting agency, but they hoped that the reporting error was on the side of over-inclusiveness rather than under-inclusiveness. It was

also noted that the economic and demographic characteristics of Onondaga County may have influenced the findings of the study. The county is predominantly urban, industrial and commercial in character, with Syracuse as the county seat. The percentage of the total county population, ages 0-18, approximates the percentage for the state. However, a substantial difference existed between Syracuse and the county exclusive of the city with percentages for both sexes being 24.3 and 32.1, respectively. Sex ratios of the population under 18 showed no important difference between the county and the state and between the city and the county (exclusive of the city). Males exceeded females in all 0-17 year population groupings. While 6.5% of New York State's population were nonwhite, 1.8% of Onondaga County was nonwhite, in contrast to 2.3% of Syracuse, and 1.0% of the rest of the county. Foreign-born made up 9.4% of the Onondaga County population as compared with 18% of the total white population of New York State at that time. Persons of Italian descent accounted for 27.3% of the total foreign-born population.

Some interesting findings were the following:

- Females had a prevalence rate approximately half that of males.
- Generally higher rates for non-whites occurred in each age group of both sexes.
- There was an increasing proportion of children reported as being mentally retarded with each advancing age up to 14 with a decline after age 14.

Reference: Goodman, M.B., et al., "A Prevalence Study of Mental Retardation in a Metropolitan Area," National Journal of Public Health, Volume 46, No. 6, pp. 702-707 (June 1956).

Appendix B

PAPERS ON THE EPIDEMIOLOGY OF HANDICAPPING DISABILITIES

INTRODUCTION

As part of the process of generating estimates of the state counts, papers were prepared on the epidemiology of the various handicapping disabilities. The papers were intended to serve two purposes:

- To present a brief overview of the issues in definition and evaluation that can affect the estimates of the size of each handicapped population;
- To provide a summary of the epidemiology and prevalence findings across sources.

Each paper includes sections on issues in definition and evaluation, an overview of the sources identified, a review of the estimates of national prevalence rates, and a review of the epidemiology of the disability. The sources are described in further detail in the abstracts presented in Appendix A.

These papers were prepared in collaboration with Jay Cross, Arlene Krasnow, Christine Miller, Trudy Nio, Chris Padilla, and Anne Wright of SRI International and Barbara Reid, a consultant in specific learning disabilities.

THE MENTALLY RETARDED

Definition and Evaluation

As is the case with almost all handicapping conditions, mental retardation is included under the definition of handicapped children but not further defined in the Act. The term "mentally retarded" is defined, however, in both the proposed child count regulations (Federal Register, Vol. 41, No. 175, P. 37815) and the main body of proposed regulations (Federal Register, Vol. 41, No. 252, p. 56977), although these definitions are not identical. In the former, "mentally retarded" means "impaired mental development which adversely affects a child's educational performance." In the latter, "impaired mental development" is replaced by "significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period." This second definition is similar to the one used by the American Association on Mental Deficiency (AAMD), except for the additional condition that a child's educational performance be adversely affected.

There is general, but not universal, agreement in the field regarding the requirements of deficits both in intelligence and in adaptive behavior for a child to be classified as mentally retarded (Hobbs, 1975; Mercer 1973). There is also agreement regarding the requirement that the handicap be manifested during the developmental period. Other criteria for mental retardation have been proposed, including physiological symptoms and persistence of the condition, but these are still considered controversial.

Experts have taken radically different approaches to defining mental retardation. Conley (1973), for example, reviewed an earlier AAMD definition which substituted "social incompetence" for "deficits in adaptive behavior" and which linked subaverage intellectual causally with social

incompetence. After weighing the advantages and disadvantages of including a criterion of social incompetence, he rejected its inclusion and opted, instead, for a criterion based solely on IQ.

Mercer (1973) defines mental retardation from a social system perspective as "an achieved status in a social system and the role played by persons holding that status." Dunn (1973) calls for replacing the AAMD definition with a much more specific and restrictive one. His definition incorporates a provision that "not more than 1 percent of each ethnic or racial subgroup" be labeled as mentally retarded. He then proposes that for special educational purposes the term "mental retardation" be replaced by "general learning disabilities," which would apply to children who score in the lowest two percentiles (relative to their ethnic or racial group) on verbal and performance scales of individual intelligence tests.

Issues regarding evaluation of children as mentally retarded are also complicated. How to measure intellectual functioning and adaptive behavior is a crucial issue. The former is commonly measured as an IQ score on a standard intelligence test; the latter is generally measured either by academic or occupational achievement or as a score on an instrument, such as the AAMD Adaptive Behavior Scale, the Vineland Social Maturity Scale, or the Gesell Developmental Scales. Both Mercer (1973) and Hobbs (1975) point out, however, that the lack of a satisfactory standardized measure of adaptive behavior means that, in practice, evaluation relies primarily on IQ scores.

Criticisms of the use of IQ tests to place children in classes for the mentally retarded are extensive. The major criticism is that the most commonly used tests are inherently Anglocentric in content and in mode of standardization (Mercer, 1973) and, as such, tend to discriminate against minority and low income children.

This criticism was recognized as valid by the U.S. District Court in the case of Larry P. et al. vs. Wilson Riles et al. (1972), resulting in a court order restraining placement of Black students in EMR classes primarily on the basis of an IQ test (Samuda, 1975). This criticism is also embodied in the nondiscriminatory testing provisions of P.L. 94-142.

Samuda (1975) suggests using alternatives to traditional standardized tests, such as culture-free tests, culture-specific tests, and criterion-referenced tests. Mercer (1973) proposes a pluralistic norm procedure. This would involve the use of standardized tests, with test scores, however, evaluated with respect to norms appropriate to each child's ethnic and socio-cultural background.

Another issue in evaluation is where the dividing line between deficiency and nondeficiency falls. Mercer (1973) identifies three criterion levels commonly used for defining subnormality: the lowest 16%, the lowest 9%, and the lowest 3%. Here, "lowest" is defined with respect to the performance of a norm group on a particular test. Mercer states that the 9% criterion level (IQ of 79 or less) is the one most commonly used by educational agencies, although the 3% cut point (IQ of 69 or less) is considered the traditional one. Mercer found that the prevalence rates of the three criteria in Riverside when applied simultaneously to both IQ scores and adaptive behavior scores were .97% for the 3% criterion, 1.89% for the 9% criterion, and 3.4% for the 16% criterion.

Overview of Sources Available

The greatest number of sources with information on prevalence rates was found for mental retardation of all the handicapping conditions. About 45 sources were identified that presented prevalence estimates or counts of mentally retarded children. These included a substantial number of studies at the state level reporting the number of children being served or the estimated number of children needing special services. At the national level, the major primary sources are the NCHS Health Examination Surveys of Children and Youth, the NCES 1970 Statistics on Education of the Handicapped, and the 1973 OCR Survey. The NCHS surveys did not include a direct diagnosis of students as mentally retarded, but they did include IQ scores on a short form of the WISC and a questionnaire item as to whether a teacher felt that a child needed special resources for the mentally retarded. The NCES Statistics on Education of the Handicapped included estimates by school administrators of the

number of mentally retarded public school pupils. The 1973 OCR survey collected enrollment data on pupils in EMR and TMR classrooms. Most of the other sources at the national level produced estimates that were based on a review of epidemiological studies (e.g., BEH, 1976; Mackie, 1969; Conley 1973). Conley (1973) presents the most exhaustive review of epidemiological studies, covering nine surveys conducted between 1936 and 1965. All of these surveys were regional in scope. Abramowicz and Richardson (1975) did a similar review of 27 community studies of severe mental retardation.

Most of the studies at the state level presented estimates of the number of mentally retarded children being served. Often, if prevalence estimates were given for pupils in need of special education for the mentally retarded, the 1976 BEH figures were used. However, in a few cases, most notably Idaho and New Mexico, special surveys were conducted to estimate the prevalence of students in need.

Mercer's (1973) studies of mental retardation in Riverside, California, are exemplary in the care with which they were designed and executed. The studies included surveys of public agencies serving the mentally retarded as well as a study of a random sample of households. Unfortunately, her focus was not on generating prevalence estimates for the school-age population. Most of the other community studies consist of surveys of agencies to estimate the number of identified mentally retarded children and their characteristics.

National Prevalence Estimates

Table B-1 presents the overall estimates of prevalence rates for mental retardation as derived from the major national surveys and as estimated by experts or organizations in special education. Caution must be taken in comparing these figures because of differences in population coverage and methodology. For example, the rate from the OCR survey is for children participating in EMR and TMR special education programs. The rate from the NCES 1970 Statistics on Education of the Handicapped is for children identified as mentally retarded but not

Table B-1

ESTIMATES OF NATIONAL PREVALENCE RATES OF MENTAL RETARDATION AMONG CHILDREN AND YOUTH

Name of Study	Year	Rate (per 100)	Population Covered	Method
*1973 OCR Survey (as reported in Ford & DBS Corporation; 1975)	1973	2.03	Public School Children	Survey of School Administrators
NCES Statistics on Education of the Handicapped	1970	2.1	Public School Children	Survey of School Administrators
NCHS HES of Youth	1966-70	1.3	Noninstitutionalized children, ages 12-17	Teacher Questionnaire
NCHS HES of Children	1963-65	1.23	Noninstitutionalized children, ages 6-11	Teacher Questionnaire
BEH	1976	2.3	Children 6-19	Composite
Rossmiller	1970	1.54	Children 0-17	Composite
Mackie	1969	2.3	Children 5-17	Composite
Conley	1973	3.4†	Children 0-19	Composite
Tarjan	1973	2.0†	Children 0-19	Demographic Model

*For a more detailed description of the sources, see the abstracts listed in Appendix A that are organized by Study Code.

†SRI estimates using figures in article.

necessarily participating in a special education program. The figures from the NCHS surveys represent the percentage of children who were said by their teachers to need special resources for the mentally retarded. None of these surveys covered the institutionalized population, and the OCR and NCES surveys covered only the public school population. In the OCR and NCES surveys, no definitions of mentally retarded were provided, and no attempt was made to obtain IQ measures or other evaluation measures. With all these caveats, nevertheless, the overall estimates appear to be low relative to what would be expected in the hypothetical case where only an IQ measure is used in evaluation and Mercer's educational criterion of 9%, corresponding to an IQ of 79 or below, is adopted. Interestingly, in Mercer's sample survey, when the 9% criterion was applied simultaneously to IQ scores and adaptive behavior sources, i.e., when a person fell in the lower 9% of the norm on both scores, the crude prevalence rate was found to be 1.89 per 100 in the general population. Another observation that may be helpful in interpreting the survey rates is that if the IQ scores in the NCHS survey of children, aged 6-11 are used with a score of 69 or below as the criterion for mental retardation, then the prevalence estimate would increase to about 1.72 per 100. If we assume that most of the children who are severely or profoundly retarded are not in school and may be institutionalized, by adding .3% to .4% to represent this population, we obtain an estimate of about 2% for the prevalence rate for mental retardation.

Looking at the estimates of the experts and organizations in the field, we find a range between Rossmiller's 1.54% and Conley's 3.4%. Conley's estimate appears to be about 10% higher than what would be expected with the assumption that IQ scores are normally distributed and that a criterion of 69 or below is required for classification as mentally retarded. As we shall see below, his high rates overall may be attributable to the extremely high rates that he has estimated for the nonwhite population of children. Rossmiller's relatively low rate is based on data from studies in California and Wisconsin and from 24 districts included in his own study.

Epidemiology

The observed variation in prevalence rates across demographic and socioeconomic groups depends on what was adopted as the operational definition of mental retardation. As indicated earlier, although there is consensus that deficits in both general intelligence and adaptive behavior are necessary for a child to be classified as mentally retarded, in practice, it is often the case that only an intelligence test score is used to classify a child as mentally retarded. Depending on the degree that one feels that intelligence tests discriminate against minority and disadvantaged children and on the procedures one uses to rectify such discrimination, one can conclude either that prevalence rates of mental retardation have no variation across racial or socioeconomic groups or they have spectacular variation. It is beyond the scope of this report to settle the issues surrounding the definition and evaluation of mental retardation.

In the following description therefore, we present the epidemiology of mental retardation from a number of perspectives. We first discuss the variation in prevalence by age, grade level, race, socioeconomic characteristics, region, and size of place, treating each of these characteristics individually. We then explore variation in prevalence taking combinations of demographic characteristics.

Age

It is generally agreed that prevalence rates of mental retardation tend to increase by age until about 15, after which they tend to decline. Extremely low rates for preschool children have been attributed both to the lack of diagnostic screening of children prior to entering school and to minimal requirements of adaptive behavior for this age group. Table B-2, adopted from Conley, 1973, p. 19, displays prevalence rates across school-age groups for the studies he included. The NCHS Health Examination Surveys, NCES Statistics on Education of the Handicapped, and other studies show a similar pattern as indicated in Table B-3. The Wyandotte County, Kansas, Study (1971) and Abramowicz et al. (1975) found a similar pattern for the severely mentally retarded.

Table B-2

ESTIMATED PREVALENCE RATE OF MENTAL RETARDATION AMONG VARIOUS AGE GROUPS
(Rate per 100)

Age Range	Name of Study										
					Jatak				Richardson		
	Lemkau	Onondaga	Levinson	Taylor	2% level	9% level	25% level	Wishik	Alamance Co.	Halifax Co.	Imre
0- 4	0.07	0.46						0.87	4.8	4.3	
1- 4											7.24
0- 2				0.45							
3- 5				1.02							
5- 6		3.00	0.9								
7- 9		4.70	2.3								
6- 8				1.83							
5- 9	1.18							5.71	8.1	9.2	7.49
10-14	4.36	7.74	3.9	2.77				6.08	9.7	8.7	8.47
15		7.75									
10-16					0.49	1.95	9.31				
15-17			2.7	2.76							
16-17		2.81									
15-19	3.02								8.9	8.7	10.39
15-20								1.94			
18-20			1.1	2.10							
17-35					0.38	1.33	6.28				
20-34	0.76										8.00

Adopted from Conley, 1973, p. 19.

Table B-3

ESTIMATED PREVALENCE RATES OF MENTAL RETARDATION BY AGE CATEGORIES
(per 100 students)

Age Range	Montgomery County	NCHS HES of Children	NCHS HES of Youth	Tarjan*
0- 5				.67
1	.09			
2	.12			
3	.10			
4	.26			
5	.23			
6		.5		
6-11				2.64
7		.7		
8		.7		
9		1.9		
10		1.7		
11		1.6		
12			1.0	
12-17				2.67
13			1.9	
14			1.5	
15			1.8	
16			.6	
17			1.2	
20-24				.58

*Estimates derived by SRI from Tarjan et al. (1973) based on assumption of an overall prevalence rate of 1%.

Grade Level

As would be expected, the variation in prevalence rates across age categories is also found in looking across grade levels. The 1970 NCES Statistics on Education of the Handicapped estimates that 2.4% of the pupils in elementary public schools are mentally retarded and that only 1.4% of the pupils in secondary schools are mentally retarded.

Race

Variation in prevalence rates across racial groups is certainly the most controversial issue regarding the epidemiology of mental retardation. There is general agreement and substantial evidence that children from minority groups, especially those in poverty, obtain IQ scores on standardized tests that are substantially below those of their White, middle-class peers. As a result, in cases where identification of a child as mentally retarded is based primarily on IQ scores, the resulting prevalence rate for nonwhites is substantially higher than that for Whites. Thus Conley (1973), who uses IQ as the sole basis for defining mental retardation, concludes that the rate of mild mental retardation for nonwhite children (11.8%). is almost ten times higher than that for White children (1.4%). Craig (1977) found, based on the NCHS Health Examination Survey of Children, that if an IQ score of 69 or less is used as the sole criterion for mental retardation, then about 6% of the Black children and only 1% of the White children would be classified as MR. Similarly, in Reschley and Jipson's study (1976) in Pima County, Arizona, 1.6% of the Anglo children, 8.1% of the Black children, 6.7% of the Mexican-American children, and 14.2% of the Papago Indian children obtained IQ scores on the Wechsler Intelligence Scale for Children-Revised that were below 70. Craig (1977) found that if classification were based on teacher opinion, the difference in rates would be diminished so that, although the rate for White children would remain about the same, the rate for Black children would decrease to about 3.3%.

When we look at the placement of children in classes for the mentally retarded, a similar pattern is evident. For example, based on an analysis of the 1973 OCR survey data, Ford and DBS Corporation (1975) found that

enrollment of minority children in EMR and TMR classes was two to three times that of nonminority children. Similarly, in a report by the Children's Defense Fund (1974), the following participation rates, also based on the 1973 OCR Survey, were presented for five southern states:

Table B-4

PERCENT OF TOTAL ENROLLMENT IN EMR CLASSES
BY RACE FOR 5 SOUTHERN STATES

		Race		
State	Total	White	Black	Other
Alabama	2.3	1.5	4.0	.6
Arkansas	2.0	1.0	3.6	1.0
Georgia	2.4	1.1	4.8	1.1
Mississippi	1.8	.8	2.6	.6
S. Carolina	2.9	1.3	5.1	1.2

Source: Children's Defense Fund (1974) p. 103, based on data from the 1973 OCR Survey.

What do we conclude from this? Both Ford and DBS Corporation (1975) and the Children's Defense Fund Report (1974) speculate that the disproportionate participation rates of minority children is not evidence of differences in prevalence across racial groups, but rather an indication of racial discrimination in classification.

Data from Mercer's (1973) study in Riverside dramatically illustrate the effect of the diagnostic procedure on the prevalence rate of mental retardation of Mexican-American children. When only an IQ score was used in the diagnosis and standard norms were used in the evaluation, 14.9% of the children were identified as mentally retarded. The rate dropped to 1.53% when both an IQ test score and adaptive behavior score were used which were evaluated against norms established exclusively from Mexican-American children.

Similar results were found by Craig (1977) in reevaluating the NCHS Health Examination Survey of Children. By deriving IQ scores adjusted for racial and socioeconomic differences, Craig found that the estimated prevalence rates were virtually identical for Black and White children.

Socioeconomic Characteristics

Similar results are found for prevalence rates across socioeconomically defined groups as were found across ethnic groups. Children from a background of poverty tend to have much lower IQ scores than their more affluent peers and as a result are more likely to be labeled mentally retarded. For example, Craig (1977) estimated that on the basis of the data in the NCHS Health Examination Survey of Children, if a criterion of 69 or less were used to classify children as MR, then about 6.5% of the children from families from the lowest income bracket (less than $3000) would be so labeled and less than 1% of the children from families in a higher income bracket would be so labeled. In two studies reported by Conley (1973)--Richardson and Imre--the difference in prevalence between low SES groups of children and high SES groups was about 5 to 1 in the former, and 15 to 1 in the latter. Similar results were found by Ford and DBS (1975) based on the 1973 OCR survey.

Again, the question arises as to whether the differences in prevalence rates across SES categories are artifacts of the cultural bias of the evaluation and placement procedures. Obviously, Mercer's pluralistic approach could be extended to SES categories to reduce or eliminate differences in prevalence.

Size of Place

With respect to variation in prevalence rates by size of place, no definite pattern appears evident (see Table B-5). The NCES study reported the highest rates for large cities; whereas Craig (1977) reported the highest rate for rural areas based on the IQ test data in the NCHS Health Examination Survey of Children. Based on both the teacher questionnaire and the test data, the lowest rate appears to be for the largest cities.

Region

Craig (1977) found regional differences rather large, especially when reliance is placed on the intelligence test for classification of children as mentally retarded (see Table B-6). The rate for the South is

Table B-5

ESTIMATED PREVALENCE RATES OF MENTAL RETARDATION BY SIZE OF PLACE
(Rate per 100)

Size of Place Category	NCES 1970 Statistics on Education of the Handicapped		Craig (1977)	
	Elementary	Secondary	Teacher	Test
Large cities	2.9	2.1		
Met. areas outside large cities	1.6	1.1		
All other areas	2.8	1.4		
Urbanized				
greater than 3,000,000			0.90	0.94
250,000 to 3,000,000			1.16	0.64
less than 250,000			1.75	1.74
Nonurbanized				
Urban			1.49	1.71
Rural			1.25	2.97

Table B-6

ESTIMATED PREVALENCE RATES OF MENTAL RETARDATION BY GEOGRAPHIC REGION
(Rate per 100)

Region	Study		
	Craig (1977)		1973 OCR Survey
	Teacher	Test	
Northeast	1.13	0.69	1.85
Midwest	1.02	0.69	2.57
South	1.43	4.73	2.19
West	1.39	0.96	1.33

roughly five times that of the other regions. Based on teacher opinions of need for special resources, the variation across regions is much less, but the South still has the highest rate. The 1973 OCR Survey gives another picture, where the Midwest has the highest participation rate, followed by the South and the other two regions. Note that the OCR Survey collects data on children participating in special education programs rather than on the need for special education.

Several of the studies conducted in states or local regions reported prevalence or participation rates by subregion within states. These rates were subject to extreme variation as shown below:

State	Range in Reported Rates
Idaho	1.69 - 2.96
Colorado	1.97 - 6.54
Riverside Agency Study	0.26 - 6.73

For purposes of completeness, we report below the prevalence or participation rates reported for states. Comparisons across states can be made only with extreme caution, if at all, because of differences in such factors as definition, diagnostic procedures, size of programs, and methods of reporting (see Table B-7).

Combinations of Demographic Characteristics

Race and Socioeconomic Status

Generally, it has been found or estimated that differences between racial or ethnic groups persist when the population is further broken out by socioeconomic status. For example, Heber (1971) presents the following estimates of prevalence rates of IQs less than 75 by socioeconomic status and race:

Socioeconomic Status	Race	
	White	Black
(High) 1	.5%	3.1%
2	.8	14.5
3	2.1	21.8
4	3.1	37.8
(Low) 5	7.8	42.9

Table B-7

ESTIMATED PREVALENCE OR PARTICIPATION
RATES FOR MENTAL RETARDATION BY STATES

State	Year	Rate (per 100)	Population Covered	Source*
Alabama	1972	7.00†	School-age population (5-17 years)	Schrag
California	1968	1.49	School-age population	Rossmiller
Colorado	1972	3.40	School-age population (3-21 years)	
Delaware	1973	2.82	School-age population	Rossmiller (1973)
Idaho	1973	2.29†	Public school population	
Indiana	1973-74	2.19 prevalence	Public & nonpublic school population	
Kentucky	1971	1.91†	School-age population	Schrag
Michigan	1975-76	1.34‡served	Public & nonpublic school children (K-12)	
Minnesota	1973-74	1.56‡served	School-age population (5-17 years)	Educational Management Service
N.E. Minnesota	1972	1.27†	School-age population (K-12)	Schrag
Nebraska	1972-73	6.30†	School-age population	Schrag
	1975-76	0.46 served	School-age population (K-12)	
New Mexico	1973	3.48 prevalence 3.34 need for sp.ed.	Public school children (6-20 years)	
North Dakota	1972-73	2.25†	School-age population	Schrag
Pennsylvania	1974-75	2.53§	Public school children	
Utah	1972	1.94†	School-age population	Schrag
Wisconsin	1969-70	1.46	School-age population	Rossmiller
	1975-76	1.95 served	Public school population	

*The source is the specific SEA unless otherwise noted.

†This figure may reflect only the population served.

‡SRI generated estimate using figures in report or article

§This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of special education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p. 22).

The ratio of Black to White rates is at least 6 to 1 in each socioeconomic status category.

Similarly, Imre (1965), as reported by Conley (1973), found the following prevalence rates using an IQ of 69 or less as the criterion for children 5 to 19 in his study:

Socioeconomic Status	Race	
	White	Black
(High) 1-3	0.64	8.53
4	1.89	11.14
6	4.93	17.45

These studies assume classification on the basis solely or primarily of IQ test scores. If other criteria were used, as noted above, these patterns of prevalence rates could be radically different.

Race and Age

Conley (1973) also reported Imre's data on prevalence rates by age and race. These indicated, as illustrated below, an interaction where the prevalence for White children decreases by age and the prevalence for nonwhite children increases by age.

Age	Race	
	White	Nonwhite
1-4	2.45	10.95
5-9	2.33	12.03
10-14	1.60	14.55
15-19	1.55	19.46
20-34	1.85	16.17

THE SPECIFIC LEARNING DISABLED

Definition and Evaluation

Perhaps the best indicator of the degree of controversy surrounding the definition and evaluation of children with specific learning disabilities is the special treatment this category received in PL 94-142. It is the only disability that is specifically defined in the Act. It is the only specified disability that has a limit associated with it on the number of children who may be counted for allocation purposes. Finally, it is the only disability for which the Act makes provision for the Commissioner of Education to prescribe regulations for diagnostic procedures to be used in evaluating children (Section 620 of PL 94-142).

As defined in the Act, children with specific learning disabilities are:

> Those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage (Section 620 of PL 94-142).

This definition is identical in concept, if not in specific wording, to the one formulated by the National Advisory Committee on Handicapped Children of USOE in 1968 (cited in McIntosh and Dunn, 1973).

Congress' special concern for the definition and evaluation of children with specific learning disabilities is summarized in the Report by the Committee on Education and Labor of the House of Representatives regarding HR 7217 (the bill that eventually became PL 94-142). To

explain the reason for the two-percent limitation on the number of learning disabled children that may be counted, the report states:

> The problem, however, as was underscored in the Subcommittee's hearings, is the absence of any clear or acceptable criteria for judging whether a child is significantly handicapped because of a possible learning disability. Testimony received from the Office of Education indicated that the entire lower quartile [25%] of any normal class could be classified as having some learning disability...
>
> Thus, this safeguard [the 2% cap] is necessary to prevent any possible disproportionate allocation of funds to a handicapped category the magnitude of which is not clearly known or understood.
> (Subcommittee on the Handicapped, Committee on Labor and Public Welfare, United States Senate, p. 132)

Subsequent to the passage of the Act, the Office of Education met with experts in the field for help with formulating the regulations mandated by Congress. In the Introduction to the proposed regulations regarding specific learning disabilities (Federal Register, Vol. 41, No. 230), the results of the meetings were discussed. The experts indicated that there was no consensus regarding what conditions should be included under specific learning disabilities and that "the only generally accepted manifestation of a specific learning disability is that there is a major discrepancy between expected achievement and ability which is not the result of other known and generally accepted handicapping conditions or circumstances." Thus, the proposed regulations go a step beyond the definition in the Act in specifying a major discrepancy between intellectual capacity and observed achievement, a component initially proposed by Bateman in 1965 (McIntosh and Dunn, 1973). The components of the definition in the Act and in the proposed regulations are in general agreement with those found in the literature on specific learning disabilities. However, as indicated earlier, the controversy regarding definition and evaluation persists.

Two reasons for the controversy are the relatively short time the field has existed and the contrasting points of view held by experts in the fields of medicine, psychology, and education. Lerner (1976) grouped

these points of view regarding definition and evaluation into five categories: neurological dysfunction or brain injury, uneven growth pattern, difficulty in academic and learning tasks, discrepancy between achievement and potentiality, and definition by exclusion.

The neurological dysfunction approach emphasizes organic deficits such as brain injury. It was the major point of view in the early phases of the field (Wiederholt, 1974) but has been supplanted in recent years by more educationally relevant criteria. This approach emphasizes etiology and pathology and uses such labels as "brain injured" and "minimal brain dysfunction." The major criticism of this approach is that in only a small percentage of children identified as learning disabled on behavioral grounds can a dysfunction in the brain or central nervous system be found. A number of studies (Myklebust and Boshes, 1969; Freeman, 1966; Paine, 1965) show that with the current state of detection of neurological dysfunctions, it is not possible to establish a direct relationship between specific learning disabilities and neurological impairment. Another weakness of this approach is that it is not clear what an educator could do even if such a relationship were found. As Kirk (1972) stated, "For pragmatic purposes, the task is to delineate within a child the basic behavior disability or disabilities and to organize a remedial program for the amelioration or correction of the disability."

The second point of view, uneven growth patterns, focuses on the irregular development of mental abilities or a maturational lag in skill development. This view states that since the brain matures at different rates, certain skills relative to other ones might take a longer time to develop. Individual test profiles of children who are labelled as learning disabled often display peaks and valleys in their sub-test scores. These peaks and valleys may be attributable to slower development in one part of the brain versus another part (Bryan and Bryan, 1975; Lerner, 1976).

The third point of view, difficulty in academic and learning tasks, emphasizes the behavior of children rather than etiology. The behavioral component in this context is difficulty or failure in a specific academic

area. The increasing use of this sort of criterion is illustrated by the results of a survey conducted by Mercer et al. (1975) of 42 state departments of education regarding their definitions of learning disabilities. About 9.5% of the states included a neurological component and 62% mentioned possible neurological involvement, but 74% included an academic component (Mercer, Forgnone, and Wolking, 1975, p. 52).

Currently, when children have problems with academic tasks or language tasks, they are often administered "process tests," such as the Frostig or Illinois Test of Psycholinguistic Abilities. If they fail, they are said to suffer from one or more process deficits. A growing body of literature, however, questions whether any relationship exists between the process test and academic failure (Hammill, 1976; Hammill and Larsen, 1974).

The fourth approach, discrepancy between achievement and potentiality, was the major point of view taken in the proposed regulations cited earlier. This approach was also used in 29% of the state definitions of learning disabilities in the study mentioned previously (Mercer, Forgnone, Wolking, 1976, p. 53).

Many problems are associated with discrepancy definitions of learning disabilities. The first is determining what potential means. Is potential related to a specific skill content taught at a particular moment? Or does it mean potential for mastering any type of material presented? Second, how is this potential to be assessed? Typically, potential is assessed by age-equivalent scores on an intelligence test. Many professionals, however, frown on the use of I.Q. tests because the tests are known to discriminate against children from low socioeconomic backgrounds, minority racial backgrounds, and non-English language backgrounds. In fact, certain states forbid the use of I.Q. tests because of their discriminatory nature (Bryan, 1974). The use of age equivalent or grade equivalent scores on I.Q. tests and achievement tests has also been criticized. (Craig and Malgoire, 1977). Some studies rely on comparisons of grade equivalent scores on achievement tests with chronological age. However, chronological age is considered a very questionable measure of intellectual capacity.

Another question regarding the discrepancy approach is where to draw the line between severe and nonsevere discrepancies. A small difference in the criterion for a severe discrepancy can make a tremendous difference in the size of the population identified as learning disabled. For example, in Myklebust and Boshes' (1969) study a decrease in the cut-off point based on a learning quotient (the ratio of age equivalent score on a test to chronological age) from 90 to 85 resulted in a corresponding 15% to 7% decrease in the percentage of children identified as learning disabled. The 50% cut-off point in expected achievement incorporated in the procedure in the proposed regulations is intended to identify "children who are having extreme problems with learning" (Federal Register, Vol. 41, No. 230, p. 52405). Possibly, at this level, the prevalence rate of children identified would be well within the 2% cap specified in the legislation.

The final approach, definition by exclusion, assumes that certain children will not fit under other specific handicap categories, such as blind or deaf, but will be so atypical as to need special education. In earlier classification systems, these children were probably listed under "other" or "miscellaneous." The exclusionary approach suggests defining children as learning disabled only after other factors have been excluded. Thus, the definition in the Act excludes from the specific learning disabled category children whose learning problems are primarily the result of some other disability, such as vision, hearing, or emotional disturbance, or of "environmental, cultural, or economic disadvantage." The problem is how does one separate the etiological factors that lead to a particular learning problem? If a child has a reading problem, how much of the problem is due to environmental factors and how much to other factors? Although there are few epidemiological studies of learning disabilities, many authorities believe that a learning disability is evident across intellectual abilities, socioeconomic background, and ethnic origin (Cruickshank, 1977; Sultzbacker and Kenowitz, 1977). Because of the difficulty of tracing a learning problem to its

source, definition by exclusion has the potential risk of excluding children from disadvantaged backgrounds who, in fact, have specific learning disabilities.

The vagueness of the definition of specific learning disabilities has obvious implications with regard to estimates of prevalence. First, the question arises as to what specific conditions should be included and how they should be diagnosed. As pointed out in the Introduction to the proposed regulations, as many as 53 types of basic learning disabilities and 99 types of minimal brain dysfunctions have been identified, probably due to the fact that no commonly accepted definitions of the conditions were used (Federal Register, Vol. 41, No. 230). Also, the distinction between specific learning disabilities and other impairments, in particular speech and language impairments, is not clear. For example, is a disorder in the psychological process of spoken language considered a speech impairment or a specific learning disability?

Finally, where does one draw the line between learning problems that call for remedial education and problems that call for special education for children with specific learning disabilities? McIntosh and Dunn (1973) note that Bateman's criterion of a difference between intellectual capacity and achievement also appears in definitions of children in need of remedial education. They state, "In the years ahead one of the most serious challenges confronting special and remedial education will be to establish a compatible interface." They note also the "encroachment" of special education on remedial education in Sweden and Canada. They indicate that estimates of prevalence of children with learning disabilities would increase dramatically from a range of 1 to 2% to at least 3.5% if the pattern of encroachment occurs in the United States.

Overview of Sources Available

Approximately 25 data sources were identified with information regarding prevalence of learning disabilities. At the national level, the NCES 1970 Statistics on Education of the Handicapped is the only primary data source. This consisted of a mail-out survey to public school

administrators. Among the data obtained was the number of students with specific learning disabilities. The definition of specific learning disabilities was virtually identical to that used in the Act. The other national estimates are based on expert opinion or on extrapolation from state or local estimates.

Most of the sources identified had estimates at the state or local level. Many of these were state reports of the number of children in SLD programs in the public schools. One local study, often cited in reviews, was conducted by Myklebust and Boshes (1969) in four school districts. In this study, approximately 2,800 third and fourth grade school children were given a battery of psychological and educational tests and medical and neurological exams. But the primary focus of the study was on questions of diagnosis rather than on prevalence (Kirk, 1972). The criteria that Myklebust and Boshes established for identifying the learning disabled was based on differences between test scores expressed in age equivalents and chronological age. However, the criterion for the difference was so low that the population they identified as learning disabled also included many slow learners and other students who ordinarily would not be labelled as handicapped.

Another source of prevalence estimates by state was a survey of state education agency personnel conducted by the National Association of State Directors of Special Education. The results are published in the Directory of Learning Disabilities Services for State Education Agencies (1976). Each state reported, as part of the survey, either the actual or estimated percentage of the total school population considered learning disabled.

Other sources of state and local estimates included surveys conducted in two states, New Mexico and Idaho, and one county, Montgomery County, Pennsylvania. The Montgomery County Study focused on preschool age children and children not enrolled in public school. The remaining sources consisted of state reports of the number of children enrolled in SLD programs and, in some cases, estimates of the number of children in need of special education for the learning disabled.

National Prevalence Estimates

Table B-8 lists the estimates of prevalence rates at the national level. The estimates range from 19% to as high as 26%. The upper bound of 26% cited by Fleischmann was based on speculative estimates made by McCarthy and McCarthy (1969) using a typology of children who may manifest the symptoms of brain injury described by Gruenberg (1964). Gruenberg's typology, however, included two groups--those with an established neurological impairment, such as epilepsy or cerebral palsy, and those with a purely functional impairment, including the educationally retarded and culturally disadvantaged--that would not ordinarily be included under specific learning disabilities. For the remaining group of children identified as similar to the group that would be classified as learning disabled, i.e., "those with suspected but unconfirmed neurologic impairment," McCarthy and McCarthy state, "Their prevalence is unknown, but estimates of five percent of the school-age population (and higher) are not uncommon" (McCarthy and McCarthy, 1969, p. 13).

The 7% estimate cited by Kirk (1972) and Payne (1974) appear to be based on the results of Myklebust and Boshes' (1969) study of third and fourth grade children in four school districts. This estimate was based on comparisons of student's grade equivalent scores to their chronological age. The figure of 7% was obtained using the criterion that at least one of seven test scores expressed in age equivalent was 85% or less of chronological age (Kirk, 1972). Whether such a criterion identifies the children who would ordinarily be labelled as having a specific learning disability is questionable. It should be noted, however, that the proposed regulations specify that an achievement score must be 50% or less of expected achievement to meet the criterion of a severe discrepancy necessary for classifying a child as having a specific learning disability (Federal Register, Vol. 41, No. 230, p. 52406).

The remaining three sources-BEH, Rossmiller, and the NCES 1970 Statistics on Education of the Handicapped-all fall in the range between 1% and 3%. Rossmiller's estimate includes the preschool population and was based in part on reports of SEAs and LEAs on the number of children

Table B-8

NATIONAL PREVALENCE ESTIMATES FOR SPECIFIC LEARNING DISABILITIES

Name of Study	Year	Rate (per 100)	Population Covered	Method
BEH	1976	3%	School-age	Obtained figures from national agencies and organizations plus state and local directors of special education.
Rossmiller	1968 1969	1.12%	School population	Includes neurologically impaired and specific learning disabilities.
NCES Statistics on Education of the Handicapped	1970	2.6%	Children in elem. & secondary school population	Mail survey of school principals learning disabilities.
McCarthy and McCarthy	1970	5%	School-age SPECULATIVE	Suspected but unconfirmed neurological impairment.
Kirk	1972	1-3% (7% at most)	SPECULATIVE	
Payne	1974	3-7%	SPECULATIVE	
Dunn	1973	1.5%	SPECULATIVE	
Fleischmann	1973	1-26%	School-age population	Lower limits from USOE and Rossmiller, upper limit from Gruenberg.

enrolled in or eligible for special education. The authors of the study state that their estimates may be too low because of lack of precision in identifying learning disabled children (Rossmiller et al., 1970, p. 123). The estimates by BEH and NCES are very close and correspond to a 3% upper bound. It is interesting to note that the BEH estimate was raised from 1% in 1971 (USOE, 1971) [in Dunn, 1973] to 3% in 1976.

Epidemiology

Information and statistics regarding the epidemiology of learning disabilities are almost non-existent to date as "the lack of an exclusive definition... precludes a precise consideration of epidemiology" (McCarthy and McCarthy, 1969, p. 13). The meager findings are discussed below under specific characteristics.

Age and Grade Level

The little data available on variation in prevalence by age and grade level indicate an extremely low rate for preschool children, increasing substantially for elementary school children and then declining for children in secondary school. The Montgomery County, Pennsylvania, study obtained an extremely low rate of 0.04% for children between the ages of 1 and 5. The NCES Statistics on Education of the Handicapped reported rates of 3.1% for pupils enrolled in public elementary school and of 1.8% for pupils enrolled in public secondary school.

Race and Socioeconomic Characteristics

A review of the literature showed no data on variations in prevalence by race or socioeconomic characteristics. Dunn (1973), however, points out that a high proportion of specific learning disabled pupils initially came from the middle and upper classes. It has been hypothesized that comparable children in the lower classes were classified as educable mentally retarded. Dunn believes that children with learning disabilities are not concentrated in any racial, ethnic, or socioeconomic group. No data support this, but Dunn states both sides of the argument:

1. Children should not be labeled as learning disabled because their environment is not stimulating educationally and
2. It is possible that poor health and nutrition would cause more central nervous system dysfunctioning and therefore cause more learning disabilities among the poor.

Region and Size of Place

No broad regional data were available. The only geographic areas reporting prevalence estimates were the states themselves. These figures ranged from 1 to 8 percent. Table B 9 is included as a summary of these estimates, but a discussion shed no light on epidemiology due to differences in definition, evaluation methods, and survey methods. Twenty-four states have adopted the definition in PL 94-142. Thirty-five states have specified eligibility criteria. Seven states have percentage limitations ranging from 1-5%.

Table B-9

ESTIMATED PREVALENCE RATES FOR SPECIFIC LEARNING DISABILITIES BY STATE*
(Per 100 Children)

State	Prevalence Estimates	% Limitation on LD Classification in State
Alabama	2.7	
Alaska	6	
Arizona	2.82	
Arkansas	3	
Bureau of Indian Affairs	7	
California	1.75	2% for entire Hand. program (being considered)
Colorado	3.6	
Connecticut	3-5%	
Delaware	1-2%	
D.C.	2	
Florida	2	(limited by availability of funds)
Georgia	3	3%
Guam	6	

Table B-9 (Continued)

State	Prevalence Estimates	% Limitation on LD Classification in State
Hawaii	2	
Idaho	3.23	3.23%
Illinois	2	
Indiana	1	
Iowa	3	
Kansas	3	
Kentucky	2	2% (guidelines, not statutory)
Louisiana	--	
Maine	--	
Maryland	--	
Massachusetts	--	
Michigan	2% (0-25 yrs)	
Minnesota	1-3%	
Mississippi	2	
Missouri	3	
Montana	3	3% (but may be exceeded)
Nebraska	2% estimate	
Nevada	6	
New Hampshire	2	
New Jersey	1.4	
New Mexico	7.38%	
New York	1-2%	
N. Carolina	3	
N. Dakota	2-5%	recommend 2-5%
Ohio	3	
Oklahoma	2	
Oregon	10.5	
Pennsylvania	1	
Puerto Rico	3	
Rhode Island	--	
S. Carolina	1	recommend 1%
S. Dakota	2% estimate	
Tennessee	2.5	
Texas	5% estimate	
Utah	5	5%
Vermont	4	
Virginia	2-3%	

Table B-9 (Concluded)

State	Prevalence Estimates	% Limitation on LD Classification in State
Washington	1.5	3%
W. Virginia	3	
Wisconsin	2% estimate	
Wyoming	3.5% (average; varies according to age)	

* As reported in the "Directory of Learning Disabilities Services for State Education Agencies" published by the National Association of State Directors of Special Education, 1976.

With respect to size of place, the NCES Statistics on Education of the Handicapped reports the figures shown in Table B-10:

Table B-10

ESTIMATED PREVALENCE OF SPECIFIC LEARNING DISABILITIES BY SIZE OF PLACE
(Rate per 100)

Level and Location of School	NCES Statistics on Education of the Handicapped
All schools	26
Elementary schools	31
Large cities	30
Metropolitan areas outside large cities	34
All other areas	30
Secondary schools	18
Large cities	17
Metropolitan areas outside large cities	17
All other areas	18

THE SPEECH IMPAIRED

Definition and Evaluation

The term "speech impaired" is defined in both the proposed child count regulations and the main body of proposed regulations. Both definitions are substantively the same with "speech impaired" described as "a speech impairment or a language impairment (such as impaired articulation, stuttering, voice impairment, or a receptive or expressive verbal language impairment), evaluated with a corrective device, which adversely affects a child's educational performance" (Federal Register, Vol. 41, No. 175, p. 37816).

Although the two federal regulatory definitions are similar, no consensus exists among the sources evaluated in the course of our study. Issues regarding the definition and evaluation of speech impairments are raised in many of the sources investigated and must temper the results reported in any source.

Speech impairments are generally assumed to include both speech disabilities and language disabilities. Speech disabilities include impaired articulation, stuttering, and voice impairment. Language impairments are defined in terms of the inability "to acquire, use, and comprehend spoken and written language" (Putnam, 1974).

A major issue in defining speech impairments is the question of whether children with a cultural background different from the norm--i.e., children who are economically disadvantaged, from minority groups, or whose first language is not English--should be labeled as speech impaired simply because they use nonstandard English. The controversy, as described by Hull and Hull (in Dunn, 1973), is (1) whether the nonstandard English of such groups is deficient or whether it is merely different and (2) whether the use of nonstandard English per se adversely affects the performance of children in school. The question then is

what sort of services are needed by such children, and, more importantly for our purposes, whether such children should be labeled as speech impaired.

Another issue with regard to classification is the dividing line between speech impairment and other disabilities, primarily specific learning disabilities. Physical, neurological, and developmental conditions can be associated with speech and language disorders. Children with disabilities, such as mental retardation, emotional disturbance, and hearing impairment, who also have a speech impairment are sometimes excluded from prevalence estimates for speech impaired children, but not always. More seriously, although the conditions describing various handicapping conditions are generally distinct, the definitions of speech impairments and specific learning disabilities both include disorders in acquisition and use of language. (See, for example, the definitions in the proposed rules, Federal Register, Vol. 41, No. 252, p. 56977). With respect to the special education a child might receive, what he is labeled probably is irrelevant. But for the purposes of reviewing prevalence rates, the ambiguity in definition is reflected in ambiguity in the reporting of the number of speech impaired children.

The role of maturation in development of speech is another issue affecting definition and evaluation. Since some children may not master all of the speech sounds before they attain eight years of age, many will exhibit speech deviations in their preschool and elementary school years. The issue is whether such children should be labeled as handicapped and be given special educational services when their speech will probably improve through maturation alone.

Finally, the issue remains of determining how much a language or speech pattern must differ from normal before a child is labeled as speech impaired. This will inevitably depend upon the characteristics of both the evaluator and the speaker (Payne et al., 1974). Thus, the identification of a speech or language deviation, as well as the assessment as to whether it can adversely affect a child's educational performance, is often a matter of subjective judgment.

Overview of Sources Available

The literature on handicapping conditions includes 32 sources which provide prevalence figures for speech impaired children--16 at the national level and 16 at the state and local level. Of the national studies conducted, the NCHS Health Examination Survey of Children and of Youth, the NCES 1970 Statistics on Education of the Handicapped, and the 1968-69 National Speech and Hearing Survey are the major primary sources. The NCHS surveys reported figures for noninstitutionalized 6-11 and 12-17 year olds gathered from teacher questionnaires of a random sample of 7,119 and 6,768 children in the U.S. The criterion used to define a speech handicap was a check beside "Speech Therapy" in response to the question: "If the following special resources were available, check those you would recommend for this child." The NCES 1970 Statistics on Education of the Handicapped include estimates derived from approximately 2,000 public school principals as to the number of speech impaired pupils enrolled in school (population served in a national stratified sample of schools). The National Speech and Hearing Survey was conducted for BEH by Colorado State University and used a sample taken from public school lists of students (grades 1-12) in 48 states and the District of Columbia. Speech tests that took into account articulation, voice, and fluency (stuttering) were administered to a total of 38,802 students. Responses collected on 82 of the subjects were considered unreliable because of inadequate English skills or for "other reasons."

Most of the other sources at the national level produced estimates based on a review of epidemiological studies, the most notable being Mackie (1969) and BEH (1976). These reports are frequently cited in other sources as a baseline for prevalence estimates but must be viewed with some reservation. The U.S. statistics for 1948-66 reported by Mackie are based on information from several sources, including SEAs, other government agencies, textbooks, and professional agencies for pupils 17 and below. The major limitation on the methods used in her study, as with other studies, concerns definitions. The study was conducted with no specific definitions of exceptionalities. She accepted the classifications used by the local school system or residential

schools, which, for speech impairments, covered a very broad classification scheme. The definition included problems of articulation, voice, fluency, cleft palate, and language development which are compatible with the Act. But it also included problems associated with hearing loss, cerebral palsy, mental retardation, cultural differences, and environmental deprivation which are not included under the Act's definition.

For the 1976 BEH estimates, various sources were used at the national, state, and local levels to gather the prevalence figures for children 0-19 years of age. Although not specifically stated, the data appear to be an update of Mackie's figures using additional information provided by professional and consumer groups and state directors of special education.

Most of the studies at the state level presented estimates of the number of speech impaired children being served. Often, if prevalence estimates were given for pupils in need of special services for speech impairments, the 1976 BEH figures were used. However, in a few cases, most notably Idaho and New Mexico, special surveys were conducted to estimate the prevalence of students in need.

National Prevalence Estimates

Table B-11 presents the overall estimates of prevalence rates for children with speech impairments derived from the major national surveys and by experts or organizations in special education. As can be seen, the prevalence estimates of speech impairments at the national level cover a wide range, but caution must be taken in comparing these figures because of differences in population coverage and methodology.

The estimated rates range between 1.64% from the NCHS Health Interview Survey to 5.7% from the 1968-69 National Speech and Hearing Survey (NSHS). The two extreme rates reported for the NCHS Health Examination Survey of Children (6.24%) and Youth (1.1%) reflect the dramatic effect of maturation on the prevalence of speech impairments. Averaging these two rates would give a rough overall rate of 3.7% for children 6 to 17.

Table B-11

ESTIMATES OF NATIONAL PREVALENCE RATES OF SPEECH IMPAIRMENTS AMONG CHILDREN AND YOUTH

Name of Study	Year	Rate (per 100)	Population Covered	Method
NCHS HES of Youth	1966-70	1.1	Noninstitutionalized 12-17 yrs	Teacher questionnaire
NCHS Health Interview Survey	1971	1.64	Noninstitutionalized children 6-16 yrs	Household interview
Mackie	1969	3.5	Noninstitutionalized school-age 5-17 yrs	Various sources
BEH	1976	3.5	Pupils age 6-19 yrs	Various sources
Rossmiller	1970	3.6	Pupils age 17 and below	Various sources
NCES Statistics on Education of the Handicapped	1970	4.0	Public school children	Survey of school administrators
1968-69 National Speech and Hearing Survey	1976	5.7 (severe) 2.4	Public school children (includes students in accelerated or special education classes)	Speech tests
NCHS HES of Children	1963-65	6.24	Noninstitutionalized 6-11 yrs	Teacher questionnaire

The 1.5% estimate reported in the 1971 HIS was based on data gathered through 44,000 household interviews. Speech defects were defined as stammering, stuttering, and "other." It is difficult to explain the very low rate reported from this source. The respondents may have interpreted the criterion for a speech defect more stringently than is ordinarily done for educational purposes. Also, parents may not be as likely as speech clinicians to recognize deviations in speech as a defect.

The estimate of 5.7% from the NSHS was a combination of the prevalence of articulation problems, voice disorders, and stuttering of public school students in grades 1 through 12. The 5.7% included 4.1% with moderate or severe speech disorders and 2.4% with severe disorders. These estimates are for children with speech disorders. It is not known what percentage of children with disorders would need special education and related services.

The remaining estimates, Mackie, BEH, Rossmiller, and the NCES School Staffing Survey, fall in the range between 3.5% and 4.0%. We should note, however, that Rossmiller's estimate of 3.6% includes the population of children below age 6, whereas the other estimates are for the school age population. The rough composite estimate of 3.7% derived from the NCHS Health Examination Survey of Children and Youth also falls in the range between 3.5% and 4.0%.

Epidemiology

In this section we present estimates of prevalence rates of speech impairments for various demographic characteristics: age, grade level, race, socioeconomic status, and geographic region. The controversy, noted earlier, regarding the definition of speech impairment and evaluation of children directly affects the epidemiology of the disability. The data presented below, however, are based on studies where no explicit stand is taken with regard to the controversy, but which may reflect one stand or another.

Age

The most important factor stressed by most reports in discussing speech impairments deals with maturation--the age of the population surveyed strongly influences prevalence rates whether it be at the national, state, or local level. The NCHS Health Examination Surveys of Children and Youth best illustrates the variation along the dimension of age on the overall prevalence estimate. Table B-12 shows that a figure of 6.1 per 100 was derived for 6-11 year olds and 1.1 per 100 for 12-17 year olds. A further breakdown shows a continual decrease in speech problems with each year of maturation.

Table B-12

ESTIMATED PREVALENCE RATES OF SPEECH HANDICAPS BY AGE CATEGORIES
(Rate per 100)

Age	Rate	Age	Rate
6-11 years	6.2	12-17 years	1.1
6	8.8	12	1.8
7	7.1	13	1.4
8	6.5	14	1.3
9	5.8	15	0.7
10	3.9	16	0.6
11	3.8	17	0.9

Source: NCHS Health Examination Surveys of Children and Youth

At the state and local level, references were made to the age factor, but few breakdowns of figures were made by age. Idaho based its prevalence estimate of 1.54% on a random sample of school age children between 9 and 11 years old and acknowledged that higher figures would probably be found for ages 8 to 8.

Grade

Related to age is the grade level of the population sampled. At the national level, two studies provided data on different grade levels, but with varying results. The NCHS Health Interview Survey (1971) derived a 1.18% prevalency estimate for pre-school children (under 6 years) and a 1.64% estimate for school age children (6-16 years). This data are questionable, as discussed earlier, because the data source was household interviews. The NCES 1970 Survey data showed a considerable decrease in speech impairments between the public elementary (6.08%) and secondary (1.11%) school populations in the U.S. Only one state, Pennsylvania, provided data on which breakdowns could be made by grade. Its estimates of the number of students who needed speech and language therapy were 10%* at the elementary level and 0.69% at the secondary level, with the overall estimate being 4.43%*. Fouracre et al. (1961) also provided prevalence estimates by grade level based upon the 1958-59 public school population in Pittsburgh, Pennsylvania--1.4% for the combined elementary and secondary population and 2.01% for the elementary school population.

Race and Socioeconomic Characteristics

Only two sources provided data on prevalence estimates based upon race and SES, both at the national level (Table B-13). The NCHS Health Interview Survey had estimates of 1.29% for White children under 17 and 2.61% for all other children under 17, while Craig (1977) computed a prevalence of 9.46% for Black and 5.73% for White children, 6-11 years, based on teacher questionnaire data taken from data in the NCHS Health Examination Survey of Children. Although the estimates differ considerably between sources, Whites, in general, show a lower prevalence

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* These figures were generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of Special Education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p. 22).

rate than nonwhites. This is consistent with the point of view expressed earlier that children with cultural backgrounds different from the norm would have a greater need for special education for the speech impaired because they use nonstandard English. A similar pattern of differences in prevalence in the HIS and the HES, i.e., the ratio of prevalence for whites to nonwhites is about the same, indicates that parents' perceptions are similar, on a relative basis, to those of teachers. This may, however, be a result of parents' perceptions being shaped by information they receive from school personnel and others regarding their children's speech impairments.

Table B-13

ESTIMATED PREVALENCE RATES OF SPEECH HANDICAPS BY RACE
(Rate per 100)

Race	Health Interview Survey (NCHS)	Craig Teachers
White	1.29	5.73
Black	--	9.46
All other	2.61	--
Population:	(under 17 yrs)	(6-11 yrs)

Using an SES breakdown, these two studies generated the following prevalence estimates displayed in Table B-14.

Variation across income groups is somewhat inconclusive although a pattern of declining prevalence with increasing income is evident. The NCHS data show a continued decline in prevalence rates as family income level increases. Craig's estimates show a decrease in prevalence from the lowest income groups, but no definite pattern of decreasing prevalence is evident beyond those groups.

Table B-14

ESTIMATED PREVALENCE RATES OF SPEECH HANDICAPS
BY FAMILY INCOME
(Rate per 100)

Family Income	Health Interview Survey (NCHS)	Craig	
		Teachers	Parents
Less than $3,000	3.26	7.49	9.75
$3,000 - $4,999	2.22	7.24	9.53
$5,000 - $6,999	1.54	5.81	8.45
$7,000 - $9,999	1.36	4.93	5.63
$10,000 - $14,000	1.12	6.76	7.86
$15,000 or over	1.14	4.34	6.52
No response	--	6.15	8.71
Population:	(under 17 yrs)	(6-11 yrs)	

Region

The regional data available were limited and generally were presented by state. The state figures listed in Table B-15 should be regarded with caution since there was little documentation of definitions and methodologies employed. Some of the data were taken from secondary sources because the original reports were not available. Two sources provided estimates by geographic region (see Table B-16). No consistent pattern is evident from these data, except that the differences across region do not appear to be extensive.

Table B-15

ESTIMATED PREVALENCE RATES OR POPULATION SERVED
FOR SPEECH HANDICAPS BY STATES

State	Year	Rate (per 100)	Population Covered	Source*
Alabama	1972	1.30†	School-age population (5-17 years)	Schrag
Colorado	1972	7.00	School-age population (3-21 years)	
Delaware	1973	2.96	School-age population	Rossmiller (1973)
Idaho	1973	1.54‡	Public school population	
Indiana	1973-74	3.1	Public & nonpublic school population	
Kentucky	1971	1.30†	School-age population	Schrag
Michigan	1975-76	2.87§ (served)	Public & nonpublic school children (K-12)	
Minnesota	1973-74	2.58** (served)	School-age population (5-17 years)	Educational Management Services
Nebraska	1972-73	4.50†	School-age population	Schrag
	1975-76	2.99 (served)	School-age population (K-12)	
N.E. Minnesota	1972	3.50†	School-age population (K-12)	Schrag
New Mexico	1973	4.74	Public school children (6-20 years) requiring a speech therapist	
North Dakota	1972-73	5.00†	School-age population	Schrag
Pennsylvania	1974-75	4.43††	Public school children	
Utah	1972	3.34†	School-age population	Schrag
Wisconsin	1975-76	3.5 (served)	Public school population (K-12)	

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* The source is the specific SEA unless otherwise noted.

† This figure may reflect only the population served.

‡ The population sample includes students who are academically talented. The estimate may be low because the sample was selected from a small age range (9-11 years old).

§ This is a conservative estimate because it does not include students enrolled after September 1975. (SRI generated estimate.)

** SRI generated estimate using figures in report or article.

†† This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of Special Education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p. 22).

Table B-16

ESTIMATED PREVALENCE RATES OF SPEECH HANDICAPS BY GEOGRAPHIC REGION
(Rate per 100)

Geographic Region	Health Interview Survey (NCHS)	Craig Teachers
Northeast	1.51	6.43
North Central	1.17	--
Mid-West	--	6.36
South	1.89	6.21
West	1.29	5.97
Population:	(under 17 yrs)	(6-11 yrs)

THE VISUALLY HANDICAPPED

Definition and Evaluation

As defined in the proposed regulations, a child who is "visually handicapped" has "a visual impairment which, after correction, adversely affects [his] educational performance. The term includes both partially seeing and blind children (Federal Register, Vol. 41, No. 252, p. 56977)."

As with other handicaps, the primary issue regarding definition and evaluation of visual impairments is whether a medical or a functional approach should be taken. The traditional definitions of blindness and partial-sightedness take the medical approach. For the purposes of providing services to those in need of assistance through public and private programs, including educational services, a legal definition of blindness is commonly used. For example, services are provided by the American Printing House for the Blind (APHB) on the basis of the number of legally blind students being served.

"Legal blindness" is defined as visual acuity in the better eye after correction for 20/200 or less or when the angle of vision subtended is no greater than 20° in the better eye after correction (APHB, 1961, in Kirk, 1972). "Partially sighted" has traditionally been defined as visual acuity between 20/200 and 20/70 in the better eye after correction (Hathaway, 1959, in Dunn, 1973).

But the traditional categories and definitions are of limited use for educational purposes since they do not reflect the educational needs of students. Many children classified as legally blind have some sight and can read printed material to some extent. For example, a study (Jones, 1961, in Hobbs, 1976) of "legally blind" children reported that 80% read print, while 12% read braille and 5% read both. These findings underscore the need for a more operational definition of visual impairment for educational purposes. Professionals favor a classification

system using criteria based on how children function in school rather than on how they perform on clinical tests (Ashcroft, 1962, in Dunn; Kakalik, 1973). While no operational definition has been uniformly adopted, many professionals use a definition based on the reading medium a visually impaired child can use. For example, the American Foundation of the Blind defines the blind child as one "whose vision loss indicates that he can and should function in his total education program chiefly through the braille system, audiovisual aids, and special equipment necessary for him to pursue his education effectively without the use of residual vision" (American Foundation of the Blind, 1957 in Dunn, p. 55). The "partially seeing" child is described as having vision that requires alteration in the educational procedure or materials (Bateman, 1967, in Haring, 1974; Jones in Hobbs, 1962).

Diagnosis of children as blind or partially sighted is ordinarily done through the use of the Snelling Chart, a chart of block letters diminishing in size that measures a child's sharpness or clearness of vision at 20 feet. These clinical measurements are obtained by trained specialists under controlled and standardized conditions. However, as those who favor a more operational definition may argue, these measurements represent a very small sampling of the visual behavior of individuals in very special circumstances (Ashcroft, 1962, in Dunn). Clinically-based eye examinations provide detailed information about such factors as age at onset, etiology, visual acuity, field of vision, and medical prognosis, but they have limited utility as a basis for educational planning (Ashcroft in Hobbs, 1975).

Although the trend, as evident in the definition of visual impairment in the regulations, is towards adoption of the operational definition along with non-clinical diagnostic measures, the traditional, clinically-based definition is still used extensively by states to identify and categorize those with visual impairments.

Overview of Sources Available

Twenty-three data sources were identified as useful in estimating the prevalence rate of visually handicapped children. Of these, 12 dealt with national estimates and the remaining were state-conducted or local studies. It should be noted that:

- Overall, these sources reflect an 18 year span (1958-1976) over which data were collected;
- The majority of the studies excluded the institutional population so that estimates are conservative.

The majority of the sources use the legal definition of blindness. One source, the NCHS Health Interview Study, used the operational definition in isolating the visually impaired. Several sources at the state and local level did not provide definitions or documentation in their categorization of visually handicapped.

Three sources gathered their data through registries: the Model Reporting Area (MRA), the American Printing House for the Blind (APHB), and the National Society for the Prevention of Blindness (NSPB). The MRA statistics were gathered from 16 state registries and are perhaps the most valuable source of information since their data reporting is uniform and each state in the MRA systematically reviews its registry to eliminate names of those who died or regained their eyesight. However, MRA data are 17 years old, and MRA statistics are known to underestimate the number of actual cases in the population (Westat, 1976; National Eye Council, 1976). For example, a survey of hospital records from five New York City hospitals identified 203 legally blind persons. Of this total, 153 were not included in the New York State Register. The American Printing House for the Blind gathers data on pupils enrolled in formal schooling as of the first Monday in January who are "legally blind." Data have been tabulated and categorized according to the medium of reading materials requested (e.g., braille, large type, or both). Both the institutional and non-institutional populations are included in these data. However, estimates reflect those registered to receive federal funds for educational materials, and the data are

gathered from reporting agencies receiving funds. The National Society for the Prevention of Blindness reports data based on statistics reported by the Model Reporting Area and is thus a secondary source. All three sources deal only with the population identified as legally blind, excluding partially sighted individuals. It can be safely concluded that these three sources underestimate the prevalence rates for visually impaired.

The primary sources at the national level consist of surveys conducted by NCHS, NCES, and BEH. NCHS collects data through the Health Interview Survey (HIS) and the Health Examination Survey (HES). The HIS classifies persons as visually impaired if they have blindness in one or both eyes, cataracts, glaucoma, color blindness, a detached retina, or other trouble seeing with one or both eyes even with glasses (NCHS, 1975). HIS data cover the noninstitutional population only and do not measure the functional loss of those identified as color blind. HIS estimates rely heavily on the lay respondent's ability to describe the impairment in his household (Westat, 1976).

The HES collects data through health examinations of children to determine visual impairments and through parent and teacher questionnaires. The 12-17 year olds in this survey were tested without correction. However, those who had their glasses or other refractive lenses with them received the distance test with their usual correction. Information on the visual acuity of these youths with their usual corrective or refractive lenses is limited here to the examinees who brought their glasses or contact lenses with them--85 percent of the group who owned them (NCHS, 1970). Tests for near visual acuity with corrected lenses were not done. Children between 6-11 years of age were tested without their glasses or refractive lenses. Since determination of need for special educational services relies on corrected vision, these examination data as presented are not useful.

The state and local sources used administrative surveys through questionnaires utilizing local education agencies. Of these sources, almost half did not provide documentation on the definition used in

identifying visually handicapped children. Since data were gathered from LEAs, most sources present estimates based on the number served in public schools and do not include the institutionalized population. In two studies, Michigan, 1975-76, and Indiana, 1973-74, both the public and non-public population are represented.

National Prevalence Estimates

Table B-17 summarizes the national prevalence estimates of blindness and visual impairments. For legal blindness, the consensus appears to be that the prevalence rate is between 0.04% and 0.06%. For the broader category of visually impaired, which includes both the blind and the partially sighted, the range in estimated prevalence is much wider: from Rossmiller's estimate of 0.05% to the NCHS Health Examination Survey estimate of 0.94%.

Rossmiller's estimate included the preschool age population between 0 and 5 and was based in part on estimates of the number of visually impaired children served in several states and LEAs. His estimate, therefore, may be too low for the school age population in need of services. At the other end of the range, the estimates based on the NCHS Health Interview and Health Examination Surveys rely on the judgments of parents or teachers regarding the impairment. As indicated earlier, the question on the Health Interview Survey for classification of a person as visually impaired was oriented to the presence of particular conditions and was not related to functional impairment. The persons with impairments, however, were further classified with regard to the degree to which the impairment limited the person's activity. When we consider the reduced population of those with an impairment that causes some limitation, the estimated prevalence rate is reduced from 0.94% to 0.13% for persons 17 years of age or less. The estimates from the NCHS Health Examination Survey are based on the response of teachers to the question of whether a child needed special resources for sight-saving. The extremely high rate of positive response may have been due at least partially to the fact that the teachers based their answer on the behavior of students with uncorrected vision.

Table B-17

NATIONAL PREVALENCE ESTIMATES

Name of Study	Year	Rate (per 100)	Population Covered	Method
Fleischmann	1973	0.10	Children 5-19 yrs, visually impaired	Composite of other sources
Health Interview Survey	1971	0.94 (0.13 causes limitation)	Noninstitutionalized children 6-16 yrs, visually impaired	Household interview
Rossmiller	1970	0.05	Pupils 17 and below, visually impaired	Various sources
NCES Statistics on Education of the Handicapped	1970	0.16*	Public school children, visually impaired	Survey of school administrators
Mackie	1969	0.10	Noninstitutionalized school-age children, visually impaired	Various sources
National Society for the Prevention of Blindness	1970	0.05†	0-20 yrs	Statistics from MRA study
Trouend-Trend	1968	0.06‡	Undetermined	Statistics from MRA study
BEH	1976	0.10	Pupils age 6-19, visually impaired	Various sources
Model Reporting Area	1969-70	0.06†	Children 0-19 yrs	State agency register of blind persons

Table B-17 (Concluded)

Name of Study	Year	Rate (per 100)	Population Covered	Method
American Printing House for the Blind	1975	0.04*†	School-age K-12	Enrollment figures from reporting agencies
Hatfield	1975	0.04†	School-age children 5-19	Agency reports
NCHS HES of Children	1963-65	1.4§	Noninstitutionalized children age 6-11	Teacher questionnaire
NCHS HES of Youth	1966-70	0.2§	Noninstitutionalized youth age 12-17	Teacher questionnaire

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* SRI generated estimate

† Prevalence is for the legally blind only

‡ As reported in Kakalik

§ Students for whom special resources for sight-saving were recommended.

Of the remaining sources, the BEH, Fleischmann, and Mackie estimates all cluster at 0.1%, which is the traditional estimate. The estimates from the NCES Statistics on Education of the Handicapped of 0.16% is high relative to the traditional estimate, but interestingly tends to agree with the results of the NCHS Health Interview Survey when limitation in activity is included as a criterion.

Epidemiology

The variation in prevalence rates was examined among five characteristics: age, grade level, race, socioeconomic status, and geographic location. Breakouts of prevalence rates by these characteristics were available from a very limited number of sources, primarily the NCHS Health Interview Survey, NCHS Health Examination Survey of Children and Youth, and those reported by the MRA. Interestingly, the detailed rates are more abundant for the blind population than for the partially sighted.

Age

Table B-18 presents estimated prevalence rates of visual impairment by age from five studies. Nothing definitive can be concluded from these data because the studies are not comparable. The gross change in prevalence evident in the Health Examination Survey between the ages of 11 and 12 may be a result of differences in methods used between the Health Examination Surveys of Children and of Youth. For all three sources dealing with the legally blind, the MRA, NSPB, and Hatfield, increasing prevalence rates with age is indicated, at least between the preschool year age and school age children. The Montgomery County Study also indicates a relatively low prevalence rate of the visually impaired for preschool age children.

Table B-18

ESTIMATED PREVALENCE RATES FOR VISUAL IMPAIRMENT BY AGE

Age	Montgomery County, Pennsylvania*	MRA†	NSPB†	HES*	Hatfield†
1	0.02				
2	0.01				
3	0.03				
4	0.03				
0-4		0.01	0.04		
5	0.03				
6				1.0	
7				1.0	
8				1.7	
9				0.9	
5-9					0.01
10				2.2	
11				1.6	
12				0.3	
13				0.1	
14				0.3	
10-14					0.01
15				0.4	
16				0.1	
17				0.2	
15-19					0.02
5-19		0.05	0.06		

* Rate for visual impairment

† Rate for legally blind.

Grade Level

Table B-19 presents estimated prevalence rates of visual impairment by grade level. Neither the NCES Statistics on Education of the Handicapped data nor the data from the American Printing House of the Blind indicate any substantial variation in prevalence across grade level at least for school age children.

Table B-19

ESTIMATED PREVALENCE RATES FOR VISUALLY IMPAIRED BY GRADE LEVEL

	Grade	Prevalence*	Population
1970 Statistics on Education of the Handicapped	Elementary	0.13	Visually impaired
	Secondary	0.15	
American Printing House for the Blind (1975)	K-12	0.03	Legally blind
	K-1	0.04	
	2-4	0.03	
	5-8	0.03	
	9-10	0.03	
	11-12	0.03	

* SRI generated estimates from data presented in the specified source.

Race

Data on estimates of prevalence according to race are presented in Table B-20. Studies have shown that Blacks tend to have a higher unaided visual acuity than their White counterparts but have a lower corrected acuity than Whites (HES, 1973; MRA, 1969). The estimates from the MRA study indicate a higher prevalence rate for blindness among nonwhites than Whites. But neither the Health Interview Survey nor Health Examination Survey data indicate any major difference in rate for visual impairment.

Socioeconomic Characteristics

Table B-21 presents the estimated prevalence rates by family income as reported by the Health Interview Survey and by Craig. With the exception of the highest income group in the Health Interview Survey, a decrease of prevalence rate with an increase in family income is evident.

Table B-20

ESTIMATED PREVALENCE RATES FOR VISUALLY IMPAIRED BY RACE

	Age Category	Race		Population
		White	Other	
HIS Survey (1970)	under 17	0.96	0.79	Visually impaired
MRA Statistics (1970)	5-19 years	0.04*	0.06	Legally blind
Craig (1977)	6-11 years	1.39	1.89†	Visually impaired

* Includes Mexican-Americans.

† Figures based on teacher questionnaire data from NCHS Health Examination Survey for Children.

Table B-21

ESTIMATED PREVALENCE RATES OF VISUAL IMPAIRMENT BY FAMILY INCOME

Family Income	HIS (1970)	Craig (1977) Teacher Questionnaire
Less than $3,000	1.15	2.24
$3,000 - $4,999	0.96	1.49
$5,000 - $6,999	0.85	1.11
$7,000 - $9,999	0.83	1.27
$10,000 - $14,999	0.76	1.18
$15,000 - or more	1.26	0.38
No response	--	2.49
Population: Visually impaired	(under 17)	(6-11 yrs)

Region

Prevalence estimates for 30 states were identified. The majority of the sources were studies conducted by SEAs. The MRA provided statistics for 16 states on persons under 17 listed on their registry. Table B-22 gives the prevalence estimates for individual states. The highest

Table B-22

ESTIMATED PREVALENCE RATES FOR VISUAL IMPAIRMENT
BY GEOGRAPHIC LOCATION

Geographic Location	Year	Age Ranges	Rate (per 100)	Population Covered	Source*
Alabama	1972	school-age children	0.20†	Blind	Schrag
California	1968	---	0.05	Visually impaired, children who require special education	Rossmiller
Colorado	1972	3-21	0.27	Visually impaired, public school enrollment	
Connecticut	1970	0-19 under 5 5-19	0.03 0.01 0.06	Legally blind	MRA
Delaware	1973	---	0.20	Visually impaired, enrollment in day schools	Rossmiller (1973)
Georgia	1970	0-19 under 5 5-19	0.01 0.00 0.02	Legally blind	MRA
Idaho	1973	school-age children	0.39	Visually impaired, public school enrollment	Schrag
Indiana	1974	youth	0.08	Visually impaired, need	
Kansas	1970	0-19 under 5 5-19	0.03 0.01 0.04	Legally blind	MRA
Kentucky	1971	school-age children	0.15†	Visually impaired	Schrag
Louisiana	1970	0-19 under 5 5-19	0.03 0.01 0.05	Legally blind	MRA
Massachusetts	1970	0-19 under 5 5-19	0.03 0.01 0.05	Legally blind	MRA
Michigan	1975-76	5-18	0.04‡	Visually impaired, public & nonpublic school enrollment, served	
Minnesota	1975	5-17	0.06‡	Visually impaired, served	Educational Management Services
Northeast Minnesota	1972	school-age children	0.33	Visually impaired	Schrag
Nebraska	1973	school-age children	0.35†	Visually impaired	Schrag
	1975-76	K-12	0.06	Served population	
New Hampshire	1970	0-19 under 5 5-19	0.05 0.02 0.07	Legally blind	MRA
New Jersey	1970	0-19 under 5 5-19	0.04 0.02 0.05	Legally blind	MRA

Table B-22 (Continued)

Geographic Location	Year	Age Ranges	Rate (per 100)	Population Covered	Source*
New Mexico	1973	6-20	0.28	Visually impaired, public school enrollment	
	1970	0-19	0.01	Legally blind	MRA
		under 5	0.00		
		5-19	0.02		
New York	1970	0-19	0.04	Legally blind	MRA
		under 5	0.01		
		5-19	0.06		
North Carolina	1970	0-19	0.04	Legally blind	MRA
		under 5	0.01		
		5-19	0.06		
North Dakota	1973	---	0.08	Visually impaired	Schrag
Oregon	1970	0-19	0.04	Legally blind	MRA
		under 5	0.02		
		5-19	0.05		
Pennsylvania	1975	school-age children	0.12§	Visually impaired, students enrolled in special education in public schools	
Montgomery County, Pennsylvania	1975	0-5	0.09	Visually impaired, non-institutional and institutional	Sower and Covert
Pittsburgh, Pennsylvania	1958-59	3-19	0.65	Visually impaired, public school enrollment	Fouracre, et al.
Rhode Island	1970	0-19	0.04	Legally blind	MRA
		under 5	0.02		
		5-19	0.05		
South Dakota	1970	0-19	0.02	Legally blind	MRA
		under 5	0.00		
		5-19	0.03		
Utah	1972	school-age children	0.06†	Visually impaired	Schrag
	1970	0-19	0.02	Legally blind	MRA
		under 5	0.00		
		5-19	0.03		
Vermont	1970	0-19	0.03	Legally blind	MRA
		under 5	0.01		
		5-19	0.05		
Virginia	1970	0-19	0.03	Legally blind	MRA
		under 5	0.01		
		5-19	0.05		
Wisconsin	1975-76	K-12	0.04	Visually impaired, served	
		3-4	0.02		

Table B-22 (Concluded)

Geographic Location	Year	Age Ranges	Rate (per 100)	Population Covered	Source*
Northeast	1977	6-11	1.68	Visually impaired	Craig, 1977
Mid-West	1977	6-11	1.11	Visually impaired	Craig, 1977
South	1977	6-11	2.16	Visually impaired	Craig, 1977
West	1977	6-11	0.95	Visually impaired	Craig, 1977
Northeast	1971	under 17	1.02	Visually impaired	Health Interview Survey 1971
North Central	1971	under 17	0.85	Visually impaired	Health Interview Survey 1971
South	1971	under 17	0.98	Visually impaired	Health Interview Survey 1971
West	1971	under 17	0.88	Visually impaired	Health Interview Survey 1971

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* The source is the specific SEA unless otherwise noted.

† This figure may reflect only the population served.

‡ SRI generated estimate.

§ This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of special education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p. 22).

prevalence rates for visually impaired children were in the West (Colorado, 1972; Idaho, 1973; New Mexico, 1973). Low estimates were reported in the Northeast region, but these statistics were from MRA registries which are known to be conservative. In the South, Alabama reported a 0.20 per 100 prevalence rate in contrast to MRA statistics for Georgia of 0.01 per 100 and for Louisiana of 0.03 per 100. The state studies report prevalence estimates substantially higher than those reported by states belonging to the MRA. Both New Mexico and Utah, members of the MRA, are currently reporting higher prevalence estimates.

THE SERIOUSLY EMOTIONALLY DISTURBED

Definition and Evaluation

Of all the categories of handicap disabilities, emotional disturbance is perhaps the most difficult to delimit and describe objectively. Consequently, no commonly accepted definition of emotional disturbance exists.

The Act and associated regulations refer specifically to the term "seriously emotionally disturbed" as one of the disabilities included in the definition of handicapped children. Although the Act does not provide a definition of seriously emotionally disturbed, both the proposed child count regulations (Federal Register, Vol. 41, No. 175, p. 37815) and the main body of the proposed regulations (Federal Register, Vol. 41, No. 252, p. 56977) do provide definitions. These are identical, except for the addition of "children who are schizophrenic or austistic" in the latter set of regulations. The definition of seriously emotionally disturbed as presented in the main body of the proposed regulations is as follows:

> A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree: an inability to learn which cannot be explained by intellectual, sensory or health factors; an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms, or fears associated with personal or school problems. The term includes children who are schizophrenic or autistic. The term does not include children who are socially maladjusted but not emotionally disturbed.

The five characteristics cited in the above definition appear throughout much of the literature reviewed (e.g., Bower, 1969; Rossmiller, Hale, and Frohreich, 1970; Kakalik, 1973) as criteria for identifying emotionally disturbed children. Although these characteristics

appear to comprise the generally accepted definition, controversy regarding aspects of the definition persists within the educational community.

Some of the controversy concerns terminology. The BEH definition uses the term "seriously emotionally disturbed", whereas most of the literature refers to the general category of emotionally disturbed, emotionally disturbed and socially maladjusted, or behavioral disabilities. Some or all of the characteristics listed in the BEH definition appear under the various terms used.

In general, experts in the field differentiate between mild or moderate and severe levels of emotional disturbance. Payne et al. (1974) identified mild or moderately disturbed children as those who can be taught in regular public school classes and severely disturbed children as psychotic, schizophrenic, and autistic. The BEH definition tends to incorporate all of these conditions under the term "seriously emotionally disturbed."

The distinction between emotional disturbance and social maladjustment is particularly difficult to make. Kirk (1972), for example, differentiates between the two by defining the inappropriate behavior of the emotionally disturbed child as the result of inner conflicts and the inability to control anxiety and the inappropriate behavior of the socially maladjusted child as a deviation from peer group behavior. Graubard (1975) points out that, in practice, the term "socially maladjusted" is generally regarded as equivalent to "juvenile delinquent." As such, a child's classification depends on whether a school has a mental health or a legal approach to dealing with students with deviant behavior. Both Kirk (1972) and Graubard (1975) incorporate both emotional disturbance and social maladjustment under one term referring to behavioral disorders or disabilities.

Issues regarding evaluation concern who is to conduct the evaluation and what criterion is to be used. In practice, diagnosis ranges from psychiatric examinations to behavioral observations in the classroom.

Although many special education programs require examination and certification by a psychiatrist or psychologist before a child can be placed, many advocate an increasing role for teachers in deciding when and how children are placed. Graubard, for example, argues that "placement decisions should be based on a child's classroom behavior rather than on interviews or tests administered outside of that specific context." Thus, he urges that "final diagnosis should rest with the personnel responsible for the intervention" (Graubard, 1973, p. 253).

Similarly, because behavior disorders are defined in a particular context, Haring advocates that "a practical course is to admit that if a teacher believes assistance is needed in teaching or coping with a child, it probably is" (Haring, 1974, p. 257). On the other hand, Kakalik cautions that a large margin for error may be introduced "since teachers are usually not trained to identify the emotionally disturbed" (Kakalik, 1973, p. 281). Furthermore, what one teacher may consider deviant behavior, another may accept as idiosynchratic, and yet another may consider normal.

As in the evaluation of other handicapping conditions that requires an assessment of deviance from a norm, the question arises as to what norm to use. Because the norm will generally correspond to what is mandated by majority cultural expectations, the behavior of children from cultures different from the majority may often be labeled deviant and the children labeled emotionally disturbed. Hobbs notes that "behavior regarded as adaptive in the ghetto may be regarded as destructive or disturbed in the classroom" (Hobbs, 1975, p. 58). Whether children exhibiting such behavior should be labeled as emotionally disturbed is questionable. In any event, the process of labeling is necessarily related to the setting in which a child is observed and the expectations of the observer.

Overview of Sources Available

Twenty-eight sources were examined as part of the literature review. Of these, seventeen were national in scope and included more than one handicapping condition (100 series); one was national in scope dealing specifically with emotional disturbance (200 series); and the remaining ten were state or regionally oriented and included more than one handicapping condition (300 series).

Of the 100 series sources, only 4 were primary sources in terms of need or number of handicapped children served (1974 Head Start Survey; 1970 NCES Statistics on Education of the Handicapped; NCHS Health Examination Survey of Youth 12-17, and NCHS Health Examination Survey of Children 6-11). The 1974 Head Start Survey is restrictive in terms of population and required psychiatric diagnosis; hence, its definition of emotional disturbance is much more limited than that of the other three sources. The 1970 NCES Statistics on Education of the Handicapped provided estimates of the prevalence of emotionally disturbed children as judged by school administrators in 2,000 public schools. Both NCHS National Health Examination Surveys conducted for children 6-11 and 12-17 were based on teachers' ratings concerning need of special resources for the emotionally disturbed.

Four of the seventeen national sources were secondary sources in that they relied on other sources for estimates, and five were of a review nature, which again relied on other sources. Most of the secondary sources relied directly or indirectly on prevalence rates reported by Mackie and Dunn in 1954.

The only 200 series source was the 1970 Survey of Public School Special Education Programs for Emotionally Disturbed Children conducted by the University of Illinois in 1970. Questionnaires were sent to the directors of special education in the 50 states and the District of Columbia.

All of the 300 series were primary estimates of the number of children who were being served and/or were in need of service. All but one of the ten sources (the exception being Montgomery County,

Pennsylvania) were at the state level. In most cases, prevalence estimates for pupils needing special services for emotional disturbance were based on USOE figures. However, in three cases--Idaho, New Mexico, and Colorado--special surveys were conducted to estimate the prevalence of students in need. Of all the sources reviewed, the Idaho and New Mexico studies were perhaps the most carefully designed and executed. Unfortunately, neither state is very representative of the U.S. population as a whole. Both states have small populations and are predominantly rural. Idaho offers very little in terms of ethnic variety, whereas New Mexico is perhaps overrepresented in terms of ethnic groups. But these ethnic groups are uncommon to most of the country.

National Prevalence Estimates

Table B-23 shows the overall estimates of prevalence rates for emotionally disturbed school children as derived from the national surveys reviewed. As shown on the table, only three of the sources (1970 NCES Statistics on Education of the Handicapped; the NCHS Health Examination Survey of Children; and the NCHS Health Examination Survey of Youth) provided estimates that were not based on previous estimates. Caution should be exercised in comparing the figures of these three sources because of differences in population coverage as well as methodology employed. For example, the rate from the 1970 NCES Statistics on Education of the Handicapped was based on the number of emotionally disturbed children, known to school administrators, who were enrolled in public schools in Spring 1970. The Survey acknowledges that some students may have been reported as both emotionally disturbed and learning disabled due to local usage of the terms. The figures from the NCHS surveys represent the percentage of children who were considered by their teachers to need special resources for the emotionally disturbed.

The 1970 NCES Statistics on Education of the Handicapped and the two NCHS surveys covered only the public school population. It is not clear whether the other sources included the private school population or were limited to the public school population. The prevalence figure

Table B-23

ESTIMATES OF NATIONAL PREVALENCE RATES OF EMOTIONAL DISTURBANCE AMONG CHILDREN AND YOUTH

Name of Study	Year	Rate (per 100)	Population Covered	Method
BEH Estimates	1976	2.0	Children 6-19 yrs	Composite of other sources
Fleischmann Report	1973	2.0	Children 5-19 yrs	Composite of other sources
NCES Statistics on Education of the Handicapped	1970	1.2	Public school children	Surveys of school administrators
NCHS HES of Youth	1966-70	1.2	Noninstitutionalized 12-17 yrs	Teacher questionnaire
Rossmiller	1970	2.0	Children 5-17 yrs	Composite of other sources
Mackie	1969	2.0	Children 5-17 yrs	Composite of other sources
NCHS HES of Children	1963-65	3.4	Children 6-11 yrs	Teacher questionnaire

of 2% provided by Mackie is the same as other estimates provided by Mackie and Dunn (1954) and by Mackie, Williams, and Hunter (1957-58). The Fleischmann estimate was based on 1968-69 OE figures as well as on other sources. The figure presented by Rossmiller is based on earlier prevalence estimates after he decided that the 0.58% prevalence rate from his study of 24 districts in five states was an underestimate due to insufficient data.

None of the surveys covered the institutionalized population. Kauffman (1974) estimates that 0.1% of school-aged children are severely disturbed (in Haring, 1974, p. 384). He arrived at this estimate based on 1972 HEW data regarding resident mental patients in state and county mental hospitals and on estimates, provided by Hingtgen and Bryson (1972), of the number of cases of childhood psychosis in the U.S. and England.

The national prevalence estimates range from 1.2%, based on the NCES Statistics on Education of the Handicapped, to 2.3%, based on an average of the rates reported in the NCHS Health Examination Surveys of Children and of Youth. Mackie's rates, as well as those rates that rely on her study, covered both the emotionally disturbed and socially maladjusted and as such may overestimate the prevalence rate for the emotionally disturbed alone. The definition of emotional disturbance used by the NCES Statistics on Education of the Handicapped, on the other hand, does not explicitly exclude the socially maladjusted and yet has a much lower rate than Mackie's and that derived from the NCHS Health Examination Surveys.

Epidemiology

The data sources were examined for variation in prevalence on six characteristics: age, ethnicity, grade, socioeconomic status (SES), region, and size of place. Six sources provided information concerning one or more of the characteristics. Of the six sources, four are national in scope, one is at the state level, and one is at the local level. In addition to the six sources, data derived from the NCHS Health

Examination Survey of Children 6-11 in a separate study by Craig (1977) is examined in relation to some of the characteristics. We first discuss the variation in prevalence for each characteristic and then explore variation in prevalence by taking combinations of demographic characteristics.

Age

Table B-24 shows the estimated prevalence rate by age as reported by the sources that address the issue. Both the Montgomery County Survey and NCHS Health Examination Survey of Children indicate that the prevalence rate of emotional disturbance increases with age. The NCHS Health Examination Survey of Youth indicates that the escalating prevalence rate begins to reverse itself at age 12 and declines thereafter. Problems of articulation between the two surveys probably account for the abrupt drop in prevalence between the 11 and 12 year old population.

Table B-24

ESTIMATED PREVALENCE ESTIMATES OF EMOTIONAL DISTURBANCE BY AGE CATEGORIES

Age Range	Montgomery County	Head Start Survey	NCHS HES of Children	NCHS HES of Youth
1	0.01			
2	--			
3	0.02			
4	0.07			
5	0.12			
3-5		7.5		
6			1.9	
7			2.4	
8			3.5	
9			4.2	
10			3.3	
11			4.1	
12				1.7
13				1.4
14				1.0
15				1.6
16				0.7
17				0.7

The 0.75 estimate provided in the Head Start survey is difficult to assess because it included children between the ages of three and five and is somewhat higher than the Montgomery County estimates. The higher prevalence estimate may be attributable, in part, to the fact that most children in Head Start come from low socioeconomic backgrounds and that the identification of handicapped Head Start children was mandated by the Congress. It should be noted, however, that diagnosis of seriously emotionally disturbed Head Start children was conducted only by a qualified psychiatrist subsequent to complete physical examinations.

The trend suggested by these studies is confirmed by what little literature exists on the subject. Findings by McCofferey and Cumming (1967), Glavin (1968), Clarizo (1968), and Lewis (1965) suggest that emotional disturbance is a transient phenomenon in the lives of most children so classified and that maturation is a key factor in improved adjustment (Hewett, 1974, p. 61).

Grade Level

As expected, the variation in prevalence rates across age categories is also found across grade levels. For example, the 1970 NCES Statistics on Education of the Handicapped estimates that 1.5% of the students in elementary public schools are emotionally disturbed and 0.9% of the students in secondary public schools are emotionally disturbed. The 1974-75 Special Education Teacher Demand and Supply Study for Elementary Schools in Pennsylvania supports this trend. This study estimated that 0.22% of the elementary students and 0.15% of the secondary students in public school districts and intermediate units were emotionally disturbed.

Race

None of the sources reviewed provided prevalence estimates by ethnic groups. Craig (1977) does, however, provide an ethnic breakdown. (Black and White) in her analysis of data from the NCHS Health Examination Survey of Children. The prevalence estimates derived by Craig are 5.09%

for Black and 3.09% for White children, ages 6-11. Although the standard errors (0.59 and 0.36 respectively) are quite high in Craig's analysis, the result does agree with the literature regarding differences in prevalence across sociocultural groups (e.g. Page, 1963, in Graubard, 1973).

Socioeconomic Characteristics

Again, none of the sources reviewed, other than Craig, provided prevalence estimates by socioeconomic categories. Her analysis shows a higher prevalence rate for children from low income families which decreases as the income level increases. The range derived is 4.83% for children whose family incomes are less than $3,000 and 2.62% for incomes of $15,000 and over. This trend is supported by the literature on the subject. Page (1963) stated that "emotional disturbance is not distributed evenly throughout the populations and that the lower socioeconomic classes produce far more than their share." (Graubard, 1973, p. 254.) Page argues that the differences in prevalence rates across SES categories are artifacts of the cultural bias of evaluation and placement procedures. For instance, he feels that teachers and mental health workers are predominantly middle-class Whites and that the behavior of lower class minorities is foreign to them.

Size of Place

No definite pattern emerges with respect to variation in prevalence rates by size of place. As shown in Table B-25, the NCES Statistics on Education of the Handicapped reported the highest rate for children in large cities and the lower rate for children in areas outside the Standard Metropolitan Statistical Areas. Craig (1977) reported the highest rate for cities with population of 250,000 to 3,000,000, followed closely by nonurbanized areas. The population range of 250,000 to 3,000,000 is sufficiently large to warrant caution in interpreting the significance of the data.

Table B-25

ESTIMATED PREVALENCE RATES OF EMOTIONAL DISTURBANCE BY SIZE OF PLACE

Size of Place Category	NCES Statistics on Education of the Handicapped		Craig (1977)
	Elementary	Secondary	
Large cities	2.5	1.1	
Metropolitan areas outside large areas	1.3	1.0	
All other areas*	1.1	0.7	
Urbanized			
greater than 3,000,000			2.86
250,000 to 3,000,000			3.70
less than 250,000			2.09
Nonurbanized			
Urban			3.58
Rural			3.58

* All other areas outside Standard Metropolitan Statistical Areas

Region

Table B-26 shows estimated prevalence rates by region as reported by the 1970 Survey of Public School Education Programs for Emotionally Disturbed Children (Hirshoren et al., 1970) and Craig (1977).

Table B-26

ESTIMATED PREVALENCE RATES OF EMOTIONAL DISTURBANCE BY GEOGRAPHICAL REGION

Region	Rate per 100 Children	
	Hirshoren et al. (1970)	Craig (1977)
Northeast (East)	2 - 5	2.61
Midwest	1 - 10	3.04
South	1 - 15	4.00
West	0.05 - 10	3.84

Although the range within each regional category is quite large for Hirshoren et al., the data correspond with Craig's. That is, the rate (range) for the South is the highest in both cases, followed by the West, then the Midwest, with the Northeast (East) having the lowest rate (range). The estimates provided by Hirshoren et al. are based on questionnaires sent to state directors of special education in each of the 50 states and the District of Columbia. Hirshoren et al. note that about half of the states seems to rely upon the USOE estimate; 13 states indicate that their estimate was based on local or state-wide studies; and 12 states provided no response (Hirshoren et al., 1970, p. 28).

Two of the studies conducted in states or local regions reported prevalence or participation rates by subregion within states. These states were subject to extreme variation as shown below:

State	Range in Reported Rates
Idaho	1.42 - 2.40
Colorado	1.48 - 4.50

For purposes of completeness, we report the prevalence or participation rates reported by states (Table B-27). Comparison across states can be made only with extreme caution, if at all, because of differences in such factors as definition, diagnostic procedures, size of programs, and methods of reporting.

Table B-27

ESTIMATED PREVALENCE OR PARTICIPATION RATES FOR EMOTIONAL DISTURBANCE BY STATE

State	Year	Rate (per 100)	Population Covered	Source*
Alabama	1972	2.60†	School-age population (5-17 years)	Schrag
Colorado	1972	3.40 prevalence	School-age population (3-21 years)	
Delaware	1973	1.10	School-age population	Rossmiller (1973)
Idaho	1973	1.81	Public school population	
Indiana	1973-74	0.43	Public & nonpublic school population	
Kentucky	1971	0.61†	School-age population	Schrag
Michigan	1975-76	0.42 served‡	Public & nonpublic school children (K-12)	
Minnesota	1973-74	2.80 served‡	School-age population (5-17 years)	Educational Management Services
N.E. Minnesota	1972	0.17†	School-age population (K-12)	Schrag
S.C. Minnesota	1970	0.08 prevalence	School-age population	Educational Management Services
Nebraska	1972-73	5.00†	School-age population	Schrag
	1975-76	0.44 served	School-age population (K-12)	
New Mexico	1973	2.00 prevalence	Public school children (6-20 years)	
North Dakota	1972-73	3.00†	School-age population	Schrag
Utah	1972	5.07†	School-age population	Schrag
Wisconsin	1969-70	1.5 prevalence	School-age population	Rossmiller
	1975-76	1.5 served	Public school population (K-12)	

* The source is the specific SEA unless otherwise noted.

† This figure may reflect only the population served.

‡ SRI generated estimate using figures in the article or report.

THE ORTHOPEDICALLY IMPAIRED AND OTHER HEALTH IMPAIRED

Definition and Evaluation

BEH in the main body of the proposed regulations (Federal Register, Vol. 41, No. 252, p. 56977) defines "orthopedically handicapped" as:

> a severe orthopedic impairment which adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., club-foot, absence of some member, etc.); impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc); and impairments from other causes (e.g., fractures or burns which cause contractures, amputation, cerebral palsy, etc.).

The only critical difference between the definitions in this set of proposed regulations and those in the proposed child count regulations, also issued by BEH, is the phrase, "evaluated with a corrective device." It is not known whether this stipulation would affect the estimates since even with the use of corrective devices many children would still require special facilities and/or instruction. Other minor differences in definition refer to "impairments from other causes" as opposed to "impairments caused by accidents." It is reasonably clear, however, that impairments are included in this category.

"Other health impairments" are defined in the main body of the proposed regulations (Federal Register, Vol. 41, No. 252, p. 56977) as:

> limited strength, vitality, or alertness, due to chronic or acute health problems such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes.

Again, although the precise wording of the definition in the proposed child count is slightly different, the concept is the same. The BEH

definition of the orthopedically handicapped includes not only skeletal deformities, but also muscular or neuromuscular dysfunctions.

Perhaps the most major problem in dealing with these two handicapping disabilities is the lack of consensus regarding terminology and delineation of categories. This is due in large part to the variety of conditions included under these impairments and of alternative classification schemes. The entire group of conditions has been classified under the categories of crippled, physically handicapped, motor impaired, non-sensory physically handicapped, and neuromotor impaired. Other classification schemes use such terms as "neurological disorders" and "developmentally disabled" (Hobbs, 1975) to group some of the health or orthopedic impairments with other impairments, such as mental retardation and blindness, that are treated separately in the BEH categorization scheme.

A related issue is the question of what particular conditions should be included under the term "other health impaired." The range of impairments is so broad, from severe allergies to cancer, that it is often unclear whether different authors are using the same definitions. Wilson (in Dunn, 1973), for example, includes under her discussion of crippling and health disabilities, pregnancy among school-age girls. She indicates that inclusion of this condition under health impairment, especially with regard to need for special education, is open to question and that it traditionally has been regarded as a social rather than as a medical problem.

Another issue with regard to definition is that, as with other impairments, the distinction must be made between those children who have an impairment and those children who require special education as a result of the impairment. For orthopedic impairments, the distinction is rather evident. Certainly mild impairments, such as the loss of all or part of a finger, would need to be excluded since they would not adversely affect a child's educational performance. The line is not so clear, however, for children with special health problems. When does an epileptic child need a special class? How often does a hemophilic or a

child with pulmonary tuberculosis have to be excluded from normal activities? The answers to these questions will drastically affect the estimates of the number of children who will need special services.

Apart from the question of need for special education, there appear to be no other major evaluation issues. Evaluation of orthopedic and health disabilities is much more medically oriented than other disabilities. As such, it relies heavily on a medical diagnosis, which remains fairly consistent among physicians.

Overview of Sources Available

About 35 data sources were reviewed which had prevalence estimates for the orthopedically handicapped. Approximately 25 of these had some kind of estimate for other health impaired, although most of them included "other health impaired" in their estimates of orthopedically or physically handicapped.

The only primary sources at the national level are the NCES 1970 Statistics on Education of the Handicapped and the NCHS National Health Examination Surveys. Neither of these surveys reported information on other health impairments. The NCHS Surveys questioned parents and teachers and included a medical exam. The NCES Statistics on Education of the Handicapped provides estimates of the number of crippled public school children as reported by school administrators. All of the other national sources are composite estimates using a number of sources.

Only one source dealt specifically with orthopedic and other health impairments. The Epilepsy Foundation of America published a small report based on a survey of 50 state departments of special education. It looked at the definition of epilepsy, the number of epileptic children requiring special education, availability of services, and cost of services.

Most of the state level estimates are primary souces. They are generally surveys of LEAs which focus on the population served as opposed to the population in need. About three quarters of the state sources

include estimates of other health impaired, but only a quarter of these list separate estimates for physically handicapped and other health impaired.

National Prevalence Estimates

Table B-28 presents the estimates of national prevalence rates for both the orthopedically handicapped and other health impaired. As stated earlier, these figures are not necessarily comparable. Not only do the definitions vary, but also the population surveyed and the methodologies used.

For the orthopedically impaired, estimated rates range from .18% from the NCES Statistics on Education of the Handicapped to .75 based on Mackie's 1969 study. An average of the estimates from the NCHS Health Examination Surveys, .25%, has closer agreement with the NCES figure than with Mackie's estimate. For "other health impaired," the only national estimate is .75% made by Mackie (1969). The two composite estimates by BEH and Rossmiller are also more consistent with the NCES and NCHS Survey results than with Mackie's estimate. Rossmiller's low estimate of .21% is based on data from Wisconsin and California and 24 school districts included in his study.

The most outstanding feature of the table is the degree to which Mackie's estimates are so much larger than the others. We can only speculate as to the reason for this. The sources she relied upon for the estimates came from the period between 1948 and 1966. The age of her sources might be a factor if prevalence rates have decreased over time. On the one hand, the prevalence rates for particular conditions, such as polio, have been observed to have decreased. But, overall, the prevalence of orthopedic impairments has increased (Wilson in Dunn, 1973) perhaps because of improved medical technology making it possible to keep children alive who previously might have died in infancy.

Table B-28

ESTIMATES OF NATIONAL PREVALENCE RATES OF
ORTHOPEDICALLY IMPAIRED AND OTHER HEALTH IMPAIRED CHILDREN
(Rate per 100)

Name of Study	Year	Orthopedic	Combined Orthopedic and Other Health Impaired	Other Health Impaired	Population Covered	Method
NCES - Statistics on Education of the Handicapped	1970	0.18	-	-	Public School Children	School Administrators
NCHS - HES of Youth	1966-70	0.2	-	-	Noninstitutionalized, 12-17	Teacher Questionnaire
NCHS - HES of Children	1966-70	0.3	-	-	Noninstitutionalized, 6-11	Teacher Questionnaire
BEH Estimates	1976	-	0.5	-	Pupils age 6-19	Various sources
Rossmiller	1970	-	0.21	-	Pupils age, 17 & below	Various sources
Mackie	1969	0.75	-	0.75	School age, 5-17	Various sources

Epidemiology

Orthopedically Impaired

A very few sources give prevalence estimates by demographic characteristics. But because of the small size of the population and the lack of data sources, only the most tentative conclusions can be reached.

Age

Only the NCHS Health Examination Surveys had estimates by age (see Table B-29). No particular trend is evident except for the extremely low rates for 16 and 17 year olds that are probably due to sampling variation.

Grade Level

The NCES Statistics on Education of the Handicapped and the Pennsylvania study both produced estimates by grade level (see Table B-30). The results from the Pennsylvania study tend to confirm those previously observed on the NCHS Health Examination Survey that older children have a lower prevalence rate. The results from the NCES Survey, however, do not confirm this.

Race

Craig's results using the data from the NCHS Health Examination Survey of Children indicate that White children have a somewhat higher prevalence rate than Black children (see Table B-31). The difference, however, does not appear to be substantial.

Socioeconomic Characteristics

Table B-32 presents estimated prevalence rates of orthopedic impairments by socioeconomic status as reported by Craig (1977) and Fouracre et al. (1961). Although the difference in rates across categories is substantial, there is no consistent trend across the two studies.

Table B-29

ESTIMATES OF PREVALENCE RATES FOR
THE ORTHOPEDICALLY IMPAIRED, BY AGE
(Rate per 100)

Age	NCHS HES
6	0.3
7	0.3
8	0.3
9	0.3
10	0.3
11	0.5
12	0.3
13	0.1
14	0.1
15	0.5
16	0
17	0

Table B-30

ESTIMATES OF PREVALENCE RATES OF ORTHOPEDICALLY IMPAIRED,
BY GRADE
(Rate per 100)

	NCES Statistics on Education of the Handicapped	Pennsylvania Estimate
Elementary	0.2	0.2
Secondary	0.2	0.08

Table B-31

ORTHOPEDICALLY IMPAIRED ESTIMATE OF PREVALENCE
BY RACE — PAT CRAIG 1977, REVIEW OF NCHS DATA
(Rate per 100)

Black	0.21
White	0.35

Table B-32

ESTIMATES OF PREVALENCE RATES FOR ORTHOPEDIC IMPAIRMENTS, BY SES
(Rate per 100)

Family Income	Craig 1977, Review of NCHS	Pittsburgh
$ 0-3,000	0.49	
3,000-4,999	0.54	
5,000-6,999	0.27	
7,000-9,999	0.18	
10,000-14,999	---	
15,000-over	0.79	
no response	0.29	
Low		0.25
Middle		0.52
High		0.36

With the exception of the highest income category, a trend of decreasing prevalence rates with increasing family income is evident in Craig's study based on the NCHS Health Examination Survey of Children.

Region and Size of Place

The regional data available were rather limited. Craig found no major differences in prevalence by region or size of place. (See Tables B-33 and B-34.) The regional estimates from state studies in Idaho and Colorado, however, did show a substantial range. Other state figures are listed in Table B-35, but little documentation was available as to definitions and methodologies used. Some of the data were taken from secondary sources because the original reports were not available.

Table B-33

ESTIMATE OF PREVALENCE RATE OF ORTHOPEDICALLY IMPAIRED, BY GEOGRAPHIC AREA — CRAIG 1977, REVIEW OF NCHS DATA
(Rate per 100)

Northeast	0.47
Midwest	0.2
South	0.26
West	0.43

Table B-34

ESTIMATE OF PREVALENCE RATE OF ORTHOPEDICALLY IMPAIRED, BY URBANIZATION
(Rate per 100)

	Craig 1977, Review of NCHS Data	Idaho Estimate	Colorado Estimate
Rural	0.32		
Urban/not urbanized	0.37		
Urbanized: under 250,000	0.53		
250,000-3,000,000	0.38		
over 3,000,000	0.18		
Regions		.48-2.40	.55-1.15

Table B-35

ESTIMATED PREVALENCE RATES OF ORTHOPEDICALLY IMPAIRED CHILDREN, BY STATE
(Rate per 100)

State	Year	Rate (per 100)	Population Covered	Source*
Alabama	1972	.18†	School-age population (5-17 years)	Schrag
California	1968	.028	School-age population	Rossmiller
Colorado	1972	.77	School-age population (3-21 years)	
Delaware	1973	.16	School-age population	Rossmiller (1973)
Idaho	1973	1.15	Public school population	
Indiana	1973-74	1.327	Public & nonpublic school population	
Kentucky	1971	.35†	School-age population	Schrag
Michigan	1975-76	.13 served‡	Public & nonpublic school children (K-12)	
Minnesota	1973-74	.06 served‡	School-age population (5-17 years)	Educational Management Service
N.E. Minnesota	1972	.37†	School-age population (K-12)	Schrag
Nebraska	1972-73 1975-76	.35† .14 served	School-age population School-age population (K-12)	Schrag
New Mexico	1973	1.53	Public school children (6-20 years)	
North Dakota	1972-73	.50†	School-age population	Schrag
Pennsylvania	1974-75	.14§	Public school children	
Utah	1972	.08†	School-age population	Schrag
Wisconsin	1969-70 1975-76	.028 prevalence .50 served	School-age population Public school population (K-12)	Rossmiller

* The source is the specific SEA unless otherwise noted.

† This figure may reflect only the population served.

‡ SRI generated estimate using figures in the article or report

§ This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of special education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p.22).

Other Health Impaired

Fouracre et al. (1961) was the only source that included estimated prevalence rates for other health impaired by a demographic category. This study found the rate for children classified as having low socio-economic status was more than twice the rate of the children in higher socioeconomic categories (see Table B-36). Only three state studies included the category of other health impaired and estimated prevalence rates--Pennsylvania, Alabama and N. Dakota (Table B-37).

Table B-36

ESTIMATED PREVALENCE RATES OF OTHER HEALTH IMPAIRED CHILDREN, BY SES
(Fouracre et al., 1958-59, Pittsburgh, Penn.)

SES	Rate (per 100)
Low	1.57
Middle	0.68
High	0.66

Table B-37

ESTIMATED PREVALENCE RATES OF OTHER HEALTH IMPAIRED CHILDREN, BY STATE

State	Rate (per 100)	Population Covered	Source
Alabama (1972)	0.050*	School-age population	Schrag
North Dakota (1972-73)	0.50*	School-age population	Schrag
Pennsylvania (1974-75)	0.042†	Public school population	

* This figure may reflect only the population served.

† This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of special education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p.22).

THE DEAF AND HARD OF HEARING

Definition and Evaluation

The terms "hearing impairment" and "deaf" are defined both in the proposed child count regulations (Federal Register, Vol. 41, No. 175, p. 37815) and the main body of the proposed regulations (Federal Register, Vol. 41, No. 252, p. 56977). The definitions in the latter source are:

- Deaf--"...a hearing impairment, which is so severe that the child's hearing is nonfunctional for the purposes of education performance."
- Hard of Hearing--"...a hearing impairment, whether permanent or fluctuating, which adversely affects a child's educational performance but which is not included under the definition of 'deaf' in this section."

The definitions in the child-count regulations are virtually identical to the above except that they specify that the hearing impairment must be "evaluated with a corrective device."

Although the categories related to hearing impairments are subject to less controversy than are the other handicapping conditions, such as mental retardation or specific learning disabilities, a consensus is still lacking regarding categorization, definition, and evaluation. A study by the National Advisory Neurological Diseases and Stroke Council in 1969, for example, concluded that "deafness has never been defined to the satisfaction of all authorities."

Even the conventional categories of deaf and hard of hearing, which are ordinarily defined with respect to degree of hearing loss, have been criticized as archaic and of marginal use for educational purposes. McConnell (in Dunn, 1973), for example, describes the problem as one of providing services in the twentieth century "using terms more applicable to the state of knowledge in the previous century." The point is that factors other than degree of impairment, such as age at onset and timing of intervention, are also important for determining educational treatment.

An operational definition that indicates how much the hearing impairment has affected the language development of the child is preferred for educational purposes since the degree of collateral language impairment determines the special educational services required. Within this context, the hard of hearing are those who[illegible] hearing loss does not preclude language development during or after the prelingual period (before two to three years of age). The deaf are those individuals who have such a severe hearing loss at birth and in the prelingual period that it precludes normal, spontaneous speech development (McConnell, in Dunn, 1973). For example, a child who loses his entire capacity to recognize auditory stimuli at ten years of age would be classified as hard of hearing rather than deaf if he had previously undergone normal language development (Myklebust cited in Hewett, 1974).

For purposes of identification and evaluation, an individual's sensitivity to frequency and intensity of sound is of primary concern. In terms of frequency, the range needed for practical listening purposes is from 250 Hertz (Hz) or cycles per second (roughly middle C) through five octaves above (500, 1000, 2000, 4000, and 8000 Hz). If one hears normally in the range from 500 to 2000 Hz, speech is intelligible, for the most part (Hewett, 1974). Hearing is usually measured audiometrically at frequencies from 125 through 8000 Hz. Intensity is measured in terms of decibels (dB), a logarithmic unit of sound intensity above an arbitrary reference point. This point is established as the average level at which normally hearing young adults, using both ears, can detect the faintest sound of which they are capable (Davis cited in Hewett, 1974). Various measurement standards are used: American National Standards Institute (ANSI); International Standards Organization (ISO); and the American Standards Association (ASA).

Despite this precision of measurement, varying classification systems are used based on the degree of hearing impairment. McConnell (1973) presents six classes according to average hearing level for 500, 1000, and 2000 Hz in the better ear:

- less than 25 dB: Not significant
- 26-40 dB: Slight; difficulty with faint speech

- 41-55 dB: Mild; problems in hearing speech at normal loudness
- 56-70 dB: Marked; difficulty even with loud speech
- 71-90 dB: Severe; only shouted or amplified speech understood
- 91 dB +: Extreme; understanding of even amplified speech usually precluded.

Other definitions are generically the same but use slightly different categories, dB intervals, or functional interpretations. For example, Rossmiller (1970) classifies mildly hard of hearing as a hearing loss of 20-45 dB in at least two speech range frequencies. A hearing loss of 75-80 dB or greater across the speech range without the use of hearing aids is classified as deaf or severely hard of hearing.

Overview of Sources Available

Approximately 35 data sources were reviewed for prevalence estimates or counts of hearing impaired children at the national, state, and local levels. The primary sources are generally surveys of households or LEAs, although some include health examination and testing of children. The secondary sources represent composite estimates from a number of sources. The review sources discuss definitions and classification systems, as well as present various prevalence estimates.

At the national level, the major primary sources come from NCHS and NCES. Three NCHS surveys include data on hearing impaired children and youth. These surveys tended to be medically oriented, dealing with the prevalence of disabilities but not relating the disability or its severity to educational needs. The 1963-65 NCHS Health Examination Survey (HES) of Children 6-11 years of age collected data through physical examinations, tests, measurements and included both teacher and parent ratings of hearing impairment. The 1966-70 Health Examination Survey of Youth 12-17 also collected data through direct physical examinations, tests, and measurements. Teacher ratings of the need and use of special resources for hard of hearing children were also part of this survey. The 1971 Health Interview Survey was conducted on households. The

classification of persons with impaired hearing was based on interview questions regarding the respondent's report of anyone in the household with hearing problems. The NCES 1970 Statistics on Education of the Handicapped collected data from school administrators on the number of deaf and hard of hearing pupils enrolled in public elementary and secondary schools in the U.S.

The Office of Child Development's (OCD) 1974 Head Start Survey (mail-out census) of grantees and delegate agencies gathered data on deaf and hard of hearing children enrolled in full year Head Start programs. Of course, the other federal agency collecting data on hearing impaired children is BEH with its annual updates of the number of handicapped children served and unserved.

Other sources at the national level that focus primarily or exclusively on the hearing impaired population are the following: Office of Demographic Studies' (ODS) Annual Survey of Hearing Impaired Children and Youth, The Deaf Population of the United States (1970), and the National Speech and Hearing Survey (1968-69). The ODS, located at Gallaudet College, mails out survey forms to all programs, as defined by the American Annals of the Deaf, known to offer special educational services to the hearing impaired. Programs are included in the program directory if they offer four or five classes. Thus, those with three or fewer classes are not represented. This survey is oriented primarily to describing students participating in special educational programs for the hearing impaired rather than to generating prevalence estimates.

The methods used in the National Census of the Deaf Population (NCDP) are summarized in The Deaf Population of the U.S. The project's purpose was twofold: (1) to determine the size of the deaf population and (2) to determine the characteristics of prevocationally deaf (onset before 19 years of age) persons. The National Speech and Hearing Survey involved the audiometric testing of 38,568 students sampled from public school lists in 48 states and the District of Columbia, grades 1-12.

The remaining sources at the national level are based on a review of epidemiological studies (e.g., BEH, 1976; Fleischmann, 1973; Rossmiller, 1970; and Mackie, 1969). Prevalence estimates were derived from a number of data sources.

At the state and local levels, the data sources primarily focus on the number of hearing impaired children served and unserved. Wisconsin and Michigan conduct annual updates of the number of children served in each state. Wisconsin mails survey forms to all 435 LEAs serving public school-age children. Michigan compiles data from LEA applications for special education funds for public and non-public school-age children. Pennsylvania (1974-75) compiled data on the number of hearing impaired children enrolled in special education programs in public elementary and secondary schools in the state. Indiana (1973-74) assessed special education needs and programs through a mail survey of all public school principals and all special education directors and administrators. The New Mexico study (1973) surveyed local school administrators, nurses, clinicians, and diagnosticians. A stratified random sample of public school age children was drawn from 16 LEAs. Idaho's study (1973) drew a stratified random sample of public school age children and surveyed school superintendents and district personnel. The Colorado study (1972) derived estimates of the number of hearing impaired children based on a census conducted by school principals and other administrators; a study conducted by school psychologists; and a screening of children at selected grade levels. The estimates cover children, ages 3 to 21, enrolled in public elementary and secondary schools in the state. Other state estimates of the prevalence of children with hearing impairments are reported in the Idaho study (Schrag, 1974).

In the Montgomery County, Pennsylvania, study (1971-72), health and welfare agencies, schools, and professionals were surveyed. In addition, extensive contacts with parents were made to locate hearing impaired children, 0-21 years of age, not in public school. Finally, the Pittsburgh prevalence study surveyed public school teachers to derive estimates of hearing impairment for children enrolled, K-12.

National Prevalence Estimates

Table B-38 presents the overall estimates of prevalence rates for hearing impairment as derived from the major national surveys and as estimated by experts or organizations concerned with special education. Comparison of these figures must be made with caution because of the differences in definition, population coverage, and methodology. For example, the NCES 1970 Statistics on Education of the Handicapped reported a low prevalence rate among deaf and hard of hearing pupils enrolled in public elementary and secondary schools with enrollments in excess of 300. The 1971 NCHS Health Interview Survey reported a much higher rate for hearing impairment among the 0-17 noninstitutionalized population. The latter survey, however, defined hearing impairments in a much broader sense than did the NCES survey. Individuals in the Health Interview Survey were asked whether anyone in the family had deafness in one or both ears, any other trouble hearing with one or both ears, or tinnitus (ringing in the ears).

Generally, the rates based on teachers' or parents' opinions regarding a child's problems in hearing or a child's need for special services for the hard of hearing are much higher than those rates based on results of diagnostic procedures. Thus the NCHS Health Interview Survey and the Health Examination Survey of Children have relatively high rates. The National Speech and Hearing Survey, however, whose results were based on hearing tests with audiometers, produced the highest rate, 2.6%, of any of the figures presented in Table B-38. This was probably due to an extremely low threshold (at least 26 dB in either ear) for identifying a child as hearing impaired. By requiring bilateral impairments of at least 26 dB in each ear, the rate decreases to 0.73%.

At the other extreme, the prevalence estimates generated by SRI using the data from the ODS Surveys yielded extremely low prevalence figures for deaf children. This is consistent with many studies that have found that prevalence estimates based on registries, in this case, children served in classes for the hearing impaired, often are much lower than estimates based on other procedures. Similarly, Rossmiller's

Table B-38

ESTIMATES OF NATIONAL PREVALENCE RATES OF DEAF (D) AND HARD OF HEARING (HH) AMONG CHILDREN AND YOUTH

Name of Study	Year	Rate (per 100)	Population Covered	Method
NCES Statistics on Education of the Handicapped	1970	0.4* 0.3 (HH) 0.1 (D)	Children enrolled in public elementary & secondary schools with school enrollment 300	Mail survey of public school principals
NCHS Health Interview Survey	1971	1.62 (HH & D) (0.7 bilateral)	Civilian, noninstitutionalized population; 3-16	Household interviews
NCHS National Health Examination Survey of Youth, 12-17	1966-70	0.3 (HH)	Civilian, noninstitutional population, 12-17 years of age	Teacher ratings of resources needed for hard of hearing
NCHS National Health Examination Survey of Children, 6-11	1963-65	1.0 (HH)	Civilian, noninstitutionalized population, 6-11	Teacher ratings of resources needed
National Census of the Deaf Population (NCDP)	1970-71	0.191 (D)	Civilian, noninstitutionalized population of U.S. aged 6-16	Verified list from NCDP household survey and NCHS 1971 Health Interview Survey data
National Speech and Hearing Survey	1968-69	2.6 (HH & D) (0.73 bilateral)	Public school children in 48 states and D.C.	Hearing tests with audiometers on random sample of children
Office of Demographic Studies' Survey of Hearing Impaired Children and Youth	1969-70	0.04* (D)	Students enrolled in 435 special education programs	Mail survey of selected programs offering special education services

Table B-38 (Concluded)

Name of Study	Year	Rate (per 100)	Population Covered	Method
Office of Demographic Studies' Survey of Hearing Impaired Children and Youth (cont.)	1970-71	0.05* (D)	Students enrolled in 755 special education programs	Mail survey of selected programs offering special education services
BEH Estimate	1976	0.575 0.5 (HH) 0.075 (D)	Children 6-19	Estimates derived from a number of different sources
Rossmiller	1970	0.1 (HH and D)	Children 0-17	Composite from number of sources
Mackie	1969	0.6 0.5 (HH) 0.1 (D)	Children 5-17	Composite from number of sources

* SRI estimates using figures in article or report.

estimate of 0.1% is substantially lower than many other estimates, possibly because he relied on prevalence data based on average daily membership (ADM) of special programs designed specifically for students identified as being hard of hearing or deaf. Also, his estimate covers preschool children, whereas most of the other estimates include only school-age children. It should be emphasized, however, that prevalence estimates for hearing loss among the preschool population are often deflated primarily because of the difficulty of detecting such an impairment. If a young child is able to hear conversational speech and begins to talk at an average age, it is quite possible that an audiometric screening test would not be routinely administered until after the child entered school.

For those studies that reported prevalence figures for school-age deaf children separately from the hard of hearing, the range in rates is from 0.04% (ODS) to 0.191% (NCDP). The NCES Statistics on Education of the Handicapped, the BEH estimate, and the Mackie estimates all cluster around 0.1% within this range. As indicated earlier, the estimate from the ODS survey appears to be low because of incomplete coverage. It is not clear whether the NCDP estimate may be biased. A major portion of the number counted as prevocationally deaf (about 75%) was estimated using the 1971 Health Interview Survey and matching against the list of persons identified by NCDP. This resulted in a standard error of 6.3 percent for the estimation of the total population of deaf persons. The standard error for the number of deaf children could be considerably larger. There is also potential bias in the estimate due to either an overidentification or underidentification of deaf persons in the Health Interview Survey. Unfortunately, no verification of the 253 persons identified by the Health Interview Survey as prevocationally deaf was possible.

Much more variation exists in the prevalence rates for the hard of hearing. At the low end, Rossmiller estimates the size of the entire hearing impaired population of children at 0.1%. At the other extreme, the National Speech and Hearing Survey (NSHS) estimates the prevalence of hearing impaired children at 2.6%, an extremely small proportion of

whom would be deaf. Estimates in other studies fall in the range between 0.3% and 0.5%. For the hard of hearing, of course, the question arises as to the extent of the need for special education for children with slight or mild impairments. By excluding children with unilateral impairments, the NSHS estimate would drop to 0.73%. If children with relatively slight impairments are assumed not to need special education, the 0.73% prevalence figure could drop by another 50%. On the other hand, children in special nonpublic schools for the deaf were not included in the population covered by the NSHS.

Epidemiology

This section presents the epidemiology of hearing impairment from differing perspectives. First, we discuss the variation in prevalence by age, grade level, race, socioeconomic status (SES), region, and size of place, with each of these characteristics treated individually. Variations in prevalence for combinations of demographic characteristics could be derived only from NCHS Health Examination Survey data on parent-reported and youth self-reported medical histories of trouble hearing. Because no relationship is known to exist between these reported rates and the rates of hearing impairment, these data are not reported here.

Age

Table B-39 presents estimated prevalence rates for hearing impairments by age. For the deaf population, the estimated prevalence rates jump dramatically from the preschool population, below five or six, to the population in school. No clear pattern is evident for this population across age categories beyond the preschool age. The apparent drop shown in the ODS Survey may be attributable to the demand for educational services beyond secondary school rather than to changes in prevalence of deafness at ages 18 or 19. This is verified by the results of the NCDP Survey where the prevalence rate in the 6 to 16 age range is comparable to the rate in the 17 to 24 age range.

Table B-39

ESTIMATED PREVALENCE RATE OF HEARING IMPAIRMENTS
AMONG VARIOUS AGE GROUPS
(Rate per 100)

Age	NCHS HES of Youth (Teacher ratings)	NCHS HES of Children (Teacher ratings)	Office of Demographic Studies (ODS) (1970-71)*	NCDP (1970)	Montgomery County, Pennsylvania (1971-72)
6		1.3			
7		1.3			
8		1.0			
9		0.7			
10		1.0			
11		0.7			
6-11		1.0			
12	0.2				
13	0.3				
14	0.2				
15	0.2				
16	--				
17	0.8				
12-17	0.3				
Under 3			0.004		
3			0.02		
4			0.04		
5			0.08		
6			0.13		
7			0.06		
8			0.06		
9			0.06		
10			0.06		
11			0.08		
12			0.09		
13			0.06		
14			0.06		
15			0.06		
16			0.05		
17			0.05		
18			0.04		
19			0.02		
20+			0.005		
Under 6				0.038	
6-16				0.191	
17-24				0.169	
1					--
2					0.02
3					--
4					0.05
5					--
Total 0-6					0.02

* Computed by SRI using data from the source.

For the hearing impaired population as a whole, there again appears to be an abrupt change in prevalence from the preschool years, as represented by the Montgomery County study, to the elementary school years. From the NCHS data, a steady decline appears in the prevalence of need for services for the hearing impaired during the school age years of 6 to 17.

The extremely low rate of prevalence for preschool children is at least partially the result of the extreme difficulty in diagnosing young children as hard of hearing.

Grade Level

Estimated prevalence rates of hearing impairment by grade level are presented in Table B-40. The NCDP and Pennsylvania data tend to confirm the results found on age in the NCHS data--that hearing sensitivity tends to improve with grade. Results from the NCES Statistics on Education of the Handicapped, however, indicate that the prevalence rate for hard of hearing remains constant between elementary and secondary levels.

Race

Table B-41 shows prevalence rates of hearing impairment by race. The NCDP noted that a higher proportion of deafness in the United States among Whites than nonwhites has appeared in every census from 1830 to 1930. The study also cited other studies that have found the same tendency for higher prevalence rates of hearing impairment among Whites (Post, 1964; Roberts and Bayliss, 1967; Schein, 1973). The majority of these studies, with the exception of Craig (1977), support this trend. Craig's results are based on a detailed examination of the NCHS Health Examination Survey of Children. Although the results based on an audiometric test are consistent with differential rates noted in other studies, the rates based on teacher assessments are not. It should be noted that the difference in rates appears to be small, however, relative to the size of the standard errors of estimation reported by Craig.

Table B-40

ESTIMATED PREVALENCE RATE OF HEARING IMPAIRMENTS BY GRADE LEVEL

Grade Level	National Speech and Hearing Survey (1968-69)		NCES (1970) (Deaf)	NCES (1970) (Hard of Hearing)	Pennsylvania	
	Unilateral	Bilateral			1974-5	Avg. of 1972/3 and 1973/4
Elementary			0.1	0.3	0.12†	0.2
Secondary			*	0.3	0.04†	0.1
1	3.71	1.80				
2	2.80	0.85				
3	2.48	0.79				
4	1.93	1.09				
5	2.04	0.91				
6	2.06	0.65				
7	0.95	0.58				
8	1.31	0.52				
9	1.63	0.22				
10	1.56	0.64				
11	0.90	0.43				
12	1.33	0.34				
Total 1-12	1.87	0.73				

* Number per 100 more than 0, but less than 0.5

† SRI estimates using figures in report.

Table B-41

ESTIMATED PREVALENCE RATES OF HEARING IMPAIRMENTS BY RACE
(Rate per 100)

Race	HIS (1971) (0-17 age group)	NCDP (1970)	Craig (1977) Teacher	Craig (1977) Test
White	1.33	(Deaf)		
All Other	1.11			
White		0.21		
Nonwhite		0.15		
White			1.08	0.08
Black			0.85	0.14

Socioeconomic Characteristics

Table B-42 reports breakdowns of hearing impairment by socioeconomic status. Studies indicate that as family income rises, the prevalence rate of hearing impairment declines. The NCHS Health Interview Survey data show that the prevalence of hard of hearing or trouble hearing is highest among youths with family incomes of less than $3,000. Craig's reexamination of the NCHS Health Examination Survey of Youth also shows a decreasing trend in prevalence as income rises.

Table B-42

ESTIMATED PREVALENCE RATES OF HEARING IMPAIRMENTS BY FAMILY INCOME

Family Income	HIS (1971) (0-17 age group)	Craig (1977) Teacher	Craig (1977) Test
$3,000	1.69	1.46	0.37
$3,000 - $4,999	1.37	0.60	0.00
$5,000 - $6,999	1.10	1.44	0.10
$7,000 - $9,999	1.32	1.25	0.00
$10,000 - $14,999	1.39	0.36	0.00
$15,000+	1.20	0.56	0.00

Size of Place

The data regarding prevalence rates by size of place do not reveal any definite pattern. As shown in Table B-43, the NCES data do not reflect much difference between large cities and other areas with the exception of a 0.2% difference at the secondary school level. For the urbanized population, Craig (1977) reports a higher rate among areas with populations above three million. However, both the 1963-65 and 1966-70 NCHS Health Examination Surveys concluded that there are negligible urban-rural differences in mean hearing thresholds for U.S. youths.

Table B-43

ESTIMATED PREVALENCE RATES OF HEARING IMPAIRMENT BY SIZE OF PLACE

Size of Place Category	NCES 1970		Craig (1977)	
	Elementary	Secondary	Teacher	Test
Large cities	0.3	0.2		
Metro-areas outside large cities	0.2	0.2		
All other areas	0.3	0.4		
Urbanized				
More than 3,000,000			1.35	0.17
250,000 - 3,000,000			0.91	0.00
Less than 250,000			0.93	0.12
Nonurbanized				
Urban			0.78	0.11
Rural			1.13	0.10

Region

Table B-44 presents breakdowns of hearing impairment by geographic region. The Northeast tends to have the lowest rate for hearing impairment. According to the NCDP, the Bureau of the Census has routinely found lower rates for deafness in the Northeast. Both the HIS (1971) and the NCDP (1970) found the West to have the highest rate of hearing

Table B-44

ESTIMATED PREVALENCE RATES OF HEARING IMPAIRMENTS BY REGION
(Rate per 100)

Region	HIS (1971) (0-17 age group)	NCDP (1970) Hearing Impaired	NCDP (1970) Deaf	Prevocationally Deaf	Craig (1977) Teacher	Craig (1977) Test
Northeast	0.98	5.98	0.70	0.17	1.02	0.12
North Central	1.15	6.56	0.96	0.24	1.47	0.09
South	1.37	6.81	0.89	0.20	0.85	0.08
West	1.81	7.17	0.93	0.19	0.78	0.07

impairment with rates for the South and North Central regions slightly below these figures. Only Craig's study showed no evidence of the trend for the Northeast to have the lowest rates.

Some data sources at the state level reported prevalence estimates by subregion within states. These rates were subject to considerable variation as shown below:

State	(Rate per 100) Range in Reported Rates
Idaho	0.42 - 1.16
Colorado	0.35 - 1.10

In the interest of completeness, prevalence or participation rates reported by various states are shown in Table B-45. Any comparison across states should be made with extreme caution because of differences in definition as well as variations in diagnostic procedures, programmatic size, and reporting methods.

Table B-45

ESTIMATED PREVALENCE OR PARTICIPATION RATES FOR HEARING IMPAIRMENT, BY STATE

State	Year	Rate (per 100)	Population Covered	Source*
Alabama	1972	0.203†	School-age population (5-17 years)	Schrag
California	1968	0.10	School-age population	Rossmiller
Colorado	1972	0.42	School-age population (3-21 years)	
Delaware	1973	0.11	School-age population	Rossmiller (1973)
Idaho	1973	0.69	Public school population	
Indiana	1973-74	0.12 prevalence	Public & nonpublic school population	
Kentucky	1971	0.22†	School-age population	Schrag
Michigan	1975-76	0.10 served‡	Public & nonpublic school children (K-12)	
Minnesota	1973-74	0.09 served‡	School-age population (5-17 years)	Educational Management Services
N.E. Minnesota	1972	0.13†	School-age population (K-12)	Schrag
Nebraska	1972-73	1.00†	School-age population	Schrag
	1975-76	0.16 served	School-age population (K-12)	
New Mexico	1973	3.91 prevalence 0.97 need for special education	Public school children (6-20 years)	
North Dakota	1972-73	2.10†	School-age population	Schrag
Pennsylvania	1974-75	0.16§	Public school children	
Utah	1972	0.13†	School-age population	Schrag
Wisconsin	1969-70	0.08	School-age population	Rossmiller
	1975-76	0.11 served	Public school population (K-12)	

* The source is the specific SEA unless otherwise noted.

† This figure may reflect only the population served.

‡ SRI generated estimate using figures in the article or report.

§ This figure was generated at SRI by comparing the Pennsylvania public school population figures presented in its 1974-75 study of special education teacher demand and supply and the NCES Fall 1974 Statistics of Public Elementary and Secondary Day Schools (p. 22).

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